Five-Year Review Report

Third Five-Year Review Report
for
Chevron Chemical Company (Ortho Division)
FLD004064242

Orlando
Orange County, Florida

September 2013

United States Environmental Protection Agency
Region 4
Atlanta, Georgia

Approved by:

Franklin E. Hill
Director, Superfund Division

Date: 9/11/13

Third Five-Year Review Report
for
Chevron Chemical Company (Ortho Division)
3100 North Orange Blossom Trail
Orlando, Orange County, Florida 32804

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List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
ATSDR	Agency for Toxic Substances and Disease Registry
AWA	Area-weighted Average
BGS	Below Ground Surface
BHC	Hexachlorocyclohexane
CALEPA	California Environmental Protection Agency
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Chemicals of Concern
CSF	Cancer Slope Factor
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FDEP	Florida Department of Environmental Protection
FYR	Five-Year Review
HI	Hazard Index
IC	Institutional Control
IUR	Inhalation Unit Risk
MCL	Maximum Contaminant Level
mg/kg	Milligram per kilogram
MNA	Monitored Natural Attenuation
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PRB	Permeable Reactive Barrier
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RfC	Reference Concentration
RfD	Reference Dose
RMCL	Recommended Maximum Contaminant Level
ROD	Record of Decision
RPM	Remedial Project Manager
RSL	Regional Screening Level
SCTL	Soil Cleanup Target Level
SJRWMD	St. Johns River Water Management District
TBC	To-Be-Considered
TSC	Target Soil Concentration
µg/L	Mircrograms per Liter
VOC	Volatile Organic Compound
ZVI	Zero Valent Iron

Executive Summary

Introduction

The 4.39-acre Chevron Chemical Company (Ortho Division) Superfund site (the Site) is located at 3100 North Orange Blossom Trail (Highway 441) in Orlando, Orange County, Florida. From 1950 to 1976, Chevron Corporation (Chevron) operated a pesticide formulation plant at the Site. During that time, the facility blended products to make pesticides and nutritional sprays that were packaged in drums and shipped off site by truck. In 1978, Chevron sold the property to Central Florida Mack Trucks, which operated a diesel truck sales and service facility until 1986. The facility generated waste oil and waste degreasing solvents. In 1984, a tanker truck filled with hydrochloric acid and nitric acid leaked, resulting in an explosion near the Site's western rinsate pond. Waste and wastewater disposal practices associated with pesticide formulation activities and truck maintenance and repair activities contaminated the Site's soil and ground water. Primary contaminants of concern include pesticides, volatile organic compounds (VOCs) and metals. Site investigations that began in 1986 were used to define general areas of soil and ground water contamination, and to conduct a removal action from August 1990 through September 1992 that included excavation, treatment and disposal of contaminated soil at the Site.

The United States Environmental Protection Agency placed the Site on the National Priorities List (NPL) on May 31, 1994. Chevron, the Site's potentially responsible party (PRP), is responsible for implementation and maintenance of the remedy. The 1996 Record of Decision (ROD) selected a remedy, which included monitored natural attenuation (MNA) of the ground water, deed restrictions/notices or other institutional controls, routine maintenance and a contingency plan if ground water components of the remedy did not effectively decrease contamination or contaminant migration. The EPA issued an Explanation of Significant Difference (ESD) in July 2000 to revise the cleanup goals for ethyl benzene and xylenes. In May 2004, the contingency measures of the 1996 ROD were triggered due to the presence of pesticides in ground water; activities included increased monitoring frequency, installation of additional monitoring wells, and initiation of a permeable reactive barrier (PRB) pilot study and additional soil characterization to determine if sources remained on site. The EPA issued an ESD in 2010 to update cleanup goals, define remedial action objectives and implement the contingency plan as outlined in the 1996 ROD. The additional remediation included soil excavation and installation of additional PRBs on site and off site. The property is currently unoccupied; its anticipated future use is commercial/industrial. The triggering action for this policy FYR is the date of signature for the previous FYR on September 30, 2008.

Remedial Action Objectives

The remedial action objectives (RAOs), selected in the 1996 ROD and further refined in the 2010 ESD, are as follows:

- Prevent the potential exposure to contaminated ground water on the Site for human health.
- Restore ground water quality to the cleanup levels specified in the ROD, thereby restoring ground water to potential beneficial use.
- Prevent or minimize migration of contaminated ground water for the protection of the environment.

Technical Assessment

According to the data reviewed, site inspection and interviews, the remedial components in place are currently protective of human health and the environment and are functioning as intended by the 1996 ROD, 2000 ESD and 2010 ESD. Although the 1996 ROD indicated that the Site's soil poses no risk from direct contact to current or future receptors based on an evaluation of current workers and future trespasser, construction worker and residential scenarios, additional source area contamination was identified and characterized in 2009. In January 2011, leachability-based soil cleanup goals were developed as recommended in the 2010 ESD; soil remediation activities were completed in January of 2012. The Site is secured by fencing and institutional controls are in place to limit site use to industrial purposes.

Although the ground water remediation goals have not yet been achieved, there is no current exposure to ground water. There are no potable or irrigation wells within the plume's extent, and an institutional control prohibiting potable uses of ground water is in place for the Chevron property. Additional instititutional controls are needed to restrict water well construction and ground water use in the Site's vicinity.

Conclusion

The remedy at the Site currently protects human health and the environment in the short-term, because institutional controls are in place to limit the Site to industrial use; unauthorized site access is discouraged through secured fencing. In addition, no drinking or irrigation wells exist currently within the impacted area, and institutional controls have been implemented to prevent exposure to ground water on the Chevron property.

In order for the remedy to be protective in the long term, additional institutional controls need to be identified and/or implemented to restrict the use of water within the affected area until cleanup goals are attained. In addition, to ensure protectiveness in the long term, continue to evaluate contaminant trends over time to confirm that concentrations are in the process of decreasing in response to the remedial action.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: Chevron Chemical Company (Ortho Division)		
EPA ID: FLD004064242		
Region: 4	**State:** FL	**City/County:** Orlando/Orange County

SITE STATUS	
NPL Status: Final	
Multiple OUs? No	**Has the site achieved construction completion?** Yes

REVIEW STATUS
Lead agency: EPA **If "Other Federal Agency" selected above, enter Agency name:** Click here to enter text.
Author name: Claire Marcussen (Reviewed by EPA)
Author affiliation: Skeo Solutions
Review period: November 20, 2012 – September 30, 2013
Date of site inspection: January 8, 2013
Type of review: Policy
Review number: 3
Triggering action date: September 30, 2008
Due date *(five years after triggering action date)*: September 30, 2013

Five-Year Review Summary Form (continued)

Issues/Recommendations

OU(s) without Issues/Recommendations Identified in the Five-Year Review:
Not Applicable

Issues and Recommendations Identified in the Five-Year Review:				
OU(s): OU1	**Issue Category: Remedy Performance**			
	Issue: Contaminated ground water at concentrations exceeding cleanup goals has migrated offsite of the Chevron property.			
	Recommendation: Ensure the current remedy prevents further migration.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Implementing Party**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA/State	09/30/2014

OU(s): OU1	Issue Category: Institutional Controls			
	Issue: Ground water institutional controls are not in place in all areas affected by the ground water plume.			
	Recommendation: Implement additional ground water use institutional controls that prevent access and use of contaminated ground water.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Implementing Party**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA/State	09/30/2014

OU(s): OU1	Issue Category: Remedy Performance			
	Issue: Ground water contaminant concentrations appear to be fluctuating following the recent remedial actions.			
	Recommendation: Continue to evaluate contaminant trends over time to confirm that concentrations are in the process of decreasing in response to the remedial action.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Implementing Party**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA/State	09/30/2014

Five-Year Review Summary Form (continued)

OU(s): OU1	Issue Category: Operations and Maintenance			
	Issue: A current Operations and Maintenance plan was not available for review during the FYR process.			
	Recommendation: EPA should confirm that there is a current Operations and Maintenance plan in place and if not, request one be developed.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Implementing Party**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA/State	09/30/2014

Protectiveness Statement(s)

Operable Unit:	*Protectiveness Determination:*	*Addendum Due Date (if applicable):*
OU1	Short-term Protective	

Protectiveness Statement:

The remedy at the Site currently protects human health and the environment in the short-term, because institutional controls are in place to limit the Site to industrial use; unauthorized site access is discouraged through secured fencing. In addition, no drinking or irrigation wells exist currently within the impacted area, and institutional controls have been implemented to prevent exposure to ground water on the Chevron property. In order for the remedy to be protective in the long term, additional institutional controls need to be identified and/or implemented to restrict the use of water within the affected area until cleanup goals are attained. In addition, to ensure protectiveness in the long term, continue to evaluate contaminant trends over time to confirm that concentrations are in the process of decreasing in response to the remedial action.

Five-Year Review Summary Form (continued)

Environmental Indicators
- *Current human exposures at the Site are under control.* - *Contaminated ground water migration is under control.*

Are Necessary Institutional Controls in Place?
☐ All ☒ Some ☐ None *ICs are needed to restrict ground water use off site property.*

Has EPA Designated the Site as Sitewide Ready for Anticipated Use?
☐ Yes ☒ No

Has the Site Been Put into Reuse?
☐ Yes ☒ No

Third Five-Year Review Report
for
Chevron Chemical Company (Ortho Division)
Superfund Site

1.0 Introduction

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy will continue to be protective of human health and the environment. FYR reports document FYR methods, findings and conclusions. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The United States Environmental Protection Agency prepares FYRs pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 121 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA Section 121 states:

> If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The EPA interpreted this requirement further in the NCP, 40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii), which states:

> If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action.

Skeo Solutions, an EPA Region 4 contractor, conducted the FYR and prepared this report regarding the remedy implemented at the Chevron Chemical Company's Ortho Division [Chevron Chemical Co. (Ortho Division)] Superfund site (the Site) in Orlando, Orange County, Florida. The EPA's contractor conducted this FYR from November 2012 to September 2013. The EPA is the lead agency for developing and implementing the remedy for the potentially responsible party (PRP)-financed cleanup at the Site. The Florida Department of Environmental Protection (FDEP), as the support agency representing the State of Florida, has reviewed all supporting documentation and provided input to the EPA during the FYR process.

This is the third FYR for the Site. The triggering action for this policy review is the previous FYR. The FYR is required due to the fact that hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure. The Site consists of one operable unit (OU).

2.0 Site Chronology

Table 1 lists the dates of important events for the Site.

Table 1: Chronology of Site Events

Event	Date
Site Discovery	November 1, 1979
The EPA completed the first preliminary assessment	March 1, 1980
The EPA completed the second preliminary assessment	July 1, 1982
The EPA issued an Administrative Order on Consent (AOC) to Chevron Corporation (Chevron) and former site owner, Mr. Uttal, to conduct site cleanup	May 15, 1990
Site inspection completed	July 27, 1990
Chevron initiated a removal action to remove all site structures	August 20, 1990
Chevron completed removal of all site structures	September 15, 1992
The EPA issued an AOC to Chevron to conduct site cleanup; Remedial investigation/feasibility study (RI/FS) initiated	January 25, 1993
The EPA proposed the Site for listing on the National Priorities List (NPL)	January 18, 1994
Chevron initiated an off-site removal action to remove pesticide-contaminated soils at Armstrong Trailer Park	March 17, 1994
The EPA finalized the Site on the NPL	May 31, 1994
Chevron completed the off-site removal action	September 26, 1994
The EPA completed RI/FS and signed Record of Decision (ROD)	May 22, 1996
The EPA issued a Unilateral Administrative Order (UAO) for Chevron to implement the ROD	July 11, 1997
The EPA started remedial design	August 12, 1997
Chevron completed remedial design and initiated the remedial action	October 9, 1997
The EPA completed the Preliminary Close-Out Report	February 10, 1998
Chevron completed the remedial action	June 11, 1999
The EPA issued an Explanation of Significant Difference (ESD) to revise the cleanup goals for ethyl benzene and xylenes	July 1, 2000
The EPA issued the first Five-Year Review (FYR)	May 2, 2003
The EPA issued an AOC to Chevron	November 12, 2003
The EPA approved the pilot test work plan addendum	October 30, 2007
The EPA issued the second FYR	September 30, 2008
The EPA issued an ESD to update the Site's arsenic cleanup standard, clearly define the remedial action objectives (RAOs), and implement the contingency plan as outlined in the 1996 ROD	September 20, 2010

3.0 Background

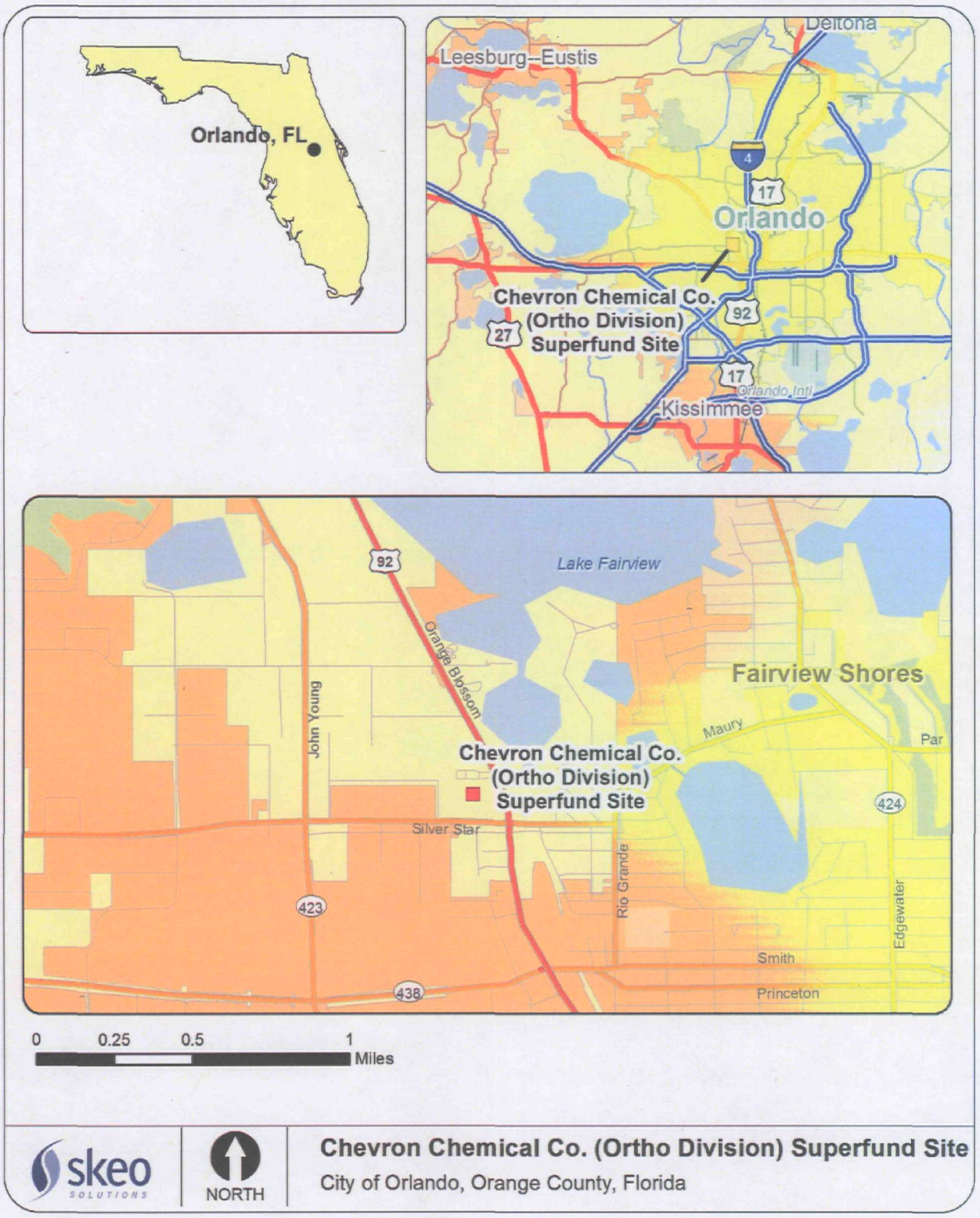
3.1 Physical Characteristics

The Site is located in Orange County, Florida, at 3100 North Orange Blossom Trail (N. Orange Blossom Trail/US Highway 92) near the city of Orlando (Figure 1). The property to the north of the Site was formerly the Armstrong Trailer Park. The Lake Fairview Commerce Center and active railroad tracks operated by CSX Corporation Inc. are located directly across Orange Blossom Trail to the northeast of the Site. The portion of the Site owned by Chevron and used historically for pesticide formulation and then subsequently sold and used for truck repair is 4.39 acres. The Site consists of a single tax parcel (Parcel 15-22-29-0000-00-001) that is currently unoccupied, devoid of permanent structures, and fenced to discourage access.

Lake Fairview is approximately 600 feet northeast of the Site. The lake is a remnant karst lake, approximately 400 acres in size. The lake's water table is maintained by a drainage well located on the northwest side of the lake. The Site is located within unincorporated Orange County and within the St. Johns River Water Management District (SJRWMD).

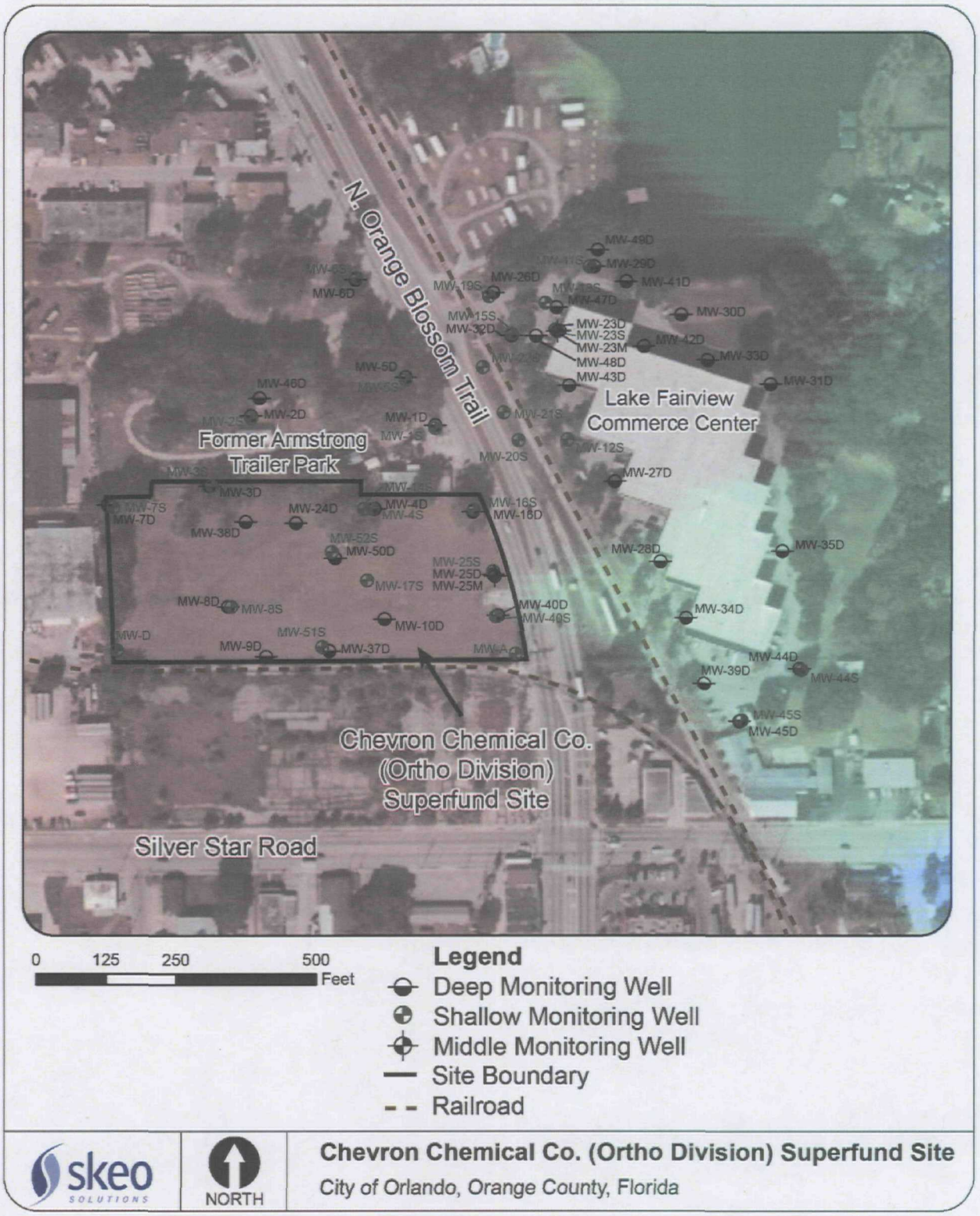
The Site is underlain by a surficial aquifer and the deeper Floridan aquifer. The surficial aquifer is encountered at a depth of 10 feet or less, with a saturated thickness of 17 to 40 feet. It consists of interbedded quartz sand, silt and clay, with multiple water-producing zones present in the Site's vicinity. The Floridan aquifer is encountered at a depth of 70 feet. Ground water flow direction for both aquifers are to the northeast.

Figure 1: Site Location Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

Figure 2: Detailed Site Map



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3.2 Land and Resource Use

Chevron formulated and processed pesticides and nutritional sprays at the Site between 1950 and 1976. During that time, the Site had several aboveground storage tanks (for storing xylenes, ethyl benzene and mineral spirits), three septic tank drainfields and an underground petroleum storage tank.

In 1978, Chevron sold the property to Robert Uttal of Central Florida Mack Trucks, who used the property for truck sales and service, until 1986. Another operator leased the property for vehicle storage from 1987 to 1991. Chevron repurchased the property in foreclosure from First Union Bank and the Resolution Trust Company in 1993 and 1994, respectively. Chevron is the current property owner. Chevron changed names during its ownership of the property however, to promote clarity in the FYR, the name Chevron is maintained.

Land use in the areas to the south and west of the Chevron property is light industrial, and historically included two construction companies with underground storage tanks, two gasoline service stations with underground storage tanks, a door and trim manufacturing company, and a lumber company. A small engine repair shop is located adjacent to the northeast corner of the Chevron property. A mobile home community is located across N. Orange Blossom Trail, about 500 feet northeast of the Chevron property. The former Armstrong Trailer Park, which no longer exists, was immediately north of the Site. That property was sold in 2006 and all associated mobile homes have been removed. One resident now lives in a small building on the former Armstrong Trailer Park property.

Future land use at the Site is expected to be commercial or industrial. The Site and its surrounding area, including the mobile home community park across North Orange Blossom Trail, are zoned commercial and industrial. Given the zoning classification for the former Armstrong Trailer Park property, future land use on this parcel may also change to commercial/industrial.

The Chevron property is unoccupied and is fenced to discourage access. Ground water in the surficial and deep aquifers underlying the property is currently not used as a source of drinking water and all properties located downgradient from the Chevron property boundary receive municipal water. However, restrictions are not in place downgradient of the Chevron property broundary to prevent installation of potable or irrigation wells or prohibit the use of any existing wells. This is a concern since the contaminant plume as shown in Figure 3 has migrated offsite of the Chevron Property to downgradient parcels at levels above the established ground water cleanup levels. In addition, a ground water delineation area as defined by Rule 62-524.420 of the Florida Administrative Code (FAC) has not been established for this area to restrict well installations.

3.3 History of Contamination

The Chevron pesticide plant received unblended products in bulk liquid and powder form, and combined the products to formulate pesticides and nutritional sprays for bulk wholesale distribution. The unblended products were delivered primarily by rail, with drum-packaged, formulated products removed by truck. An office building and a warehouse were historically located on the property. Two unlined rinsate ponds located in the northwestern portion of the Site were used for collection and disposal of pesticide-formulating rinse water and drum rinse water. A warehouse floor drain discharged onto the ground surface near an abandoned rail spur along the southern property boundary.

Parathion, chlordane, phaltan, captan, malathion and paraquat were the primary products formulated at the Site. Dichlorodiphenyltrichloroethane (DDT), difolatan, lindane, dieldrin, aldrin, dibromamine and aqueous solutions (nutritional sprays) of copper, zinc, manganese, sulfur and boron were also produced. Chemical carriers and solvents used in pesticide formulation included xylenes, kerosene, mineral oil, mineral spirits, ethyl benzene and aromatic naphtha.

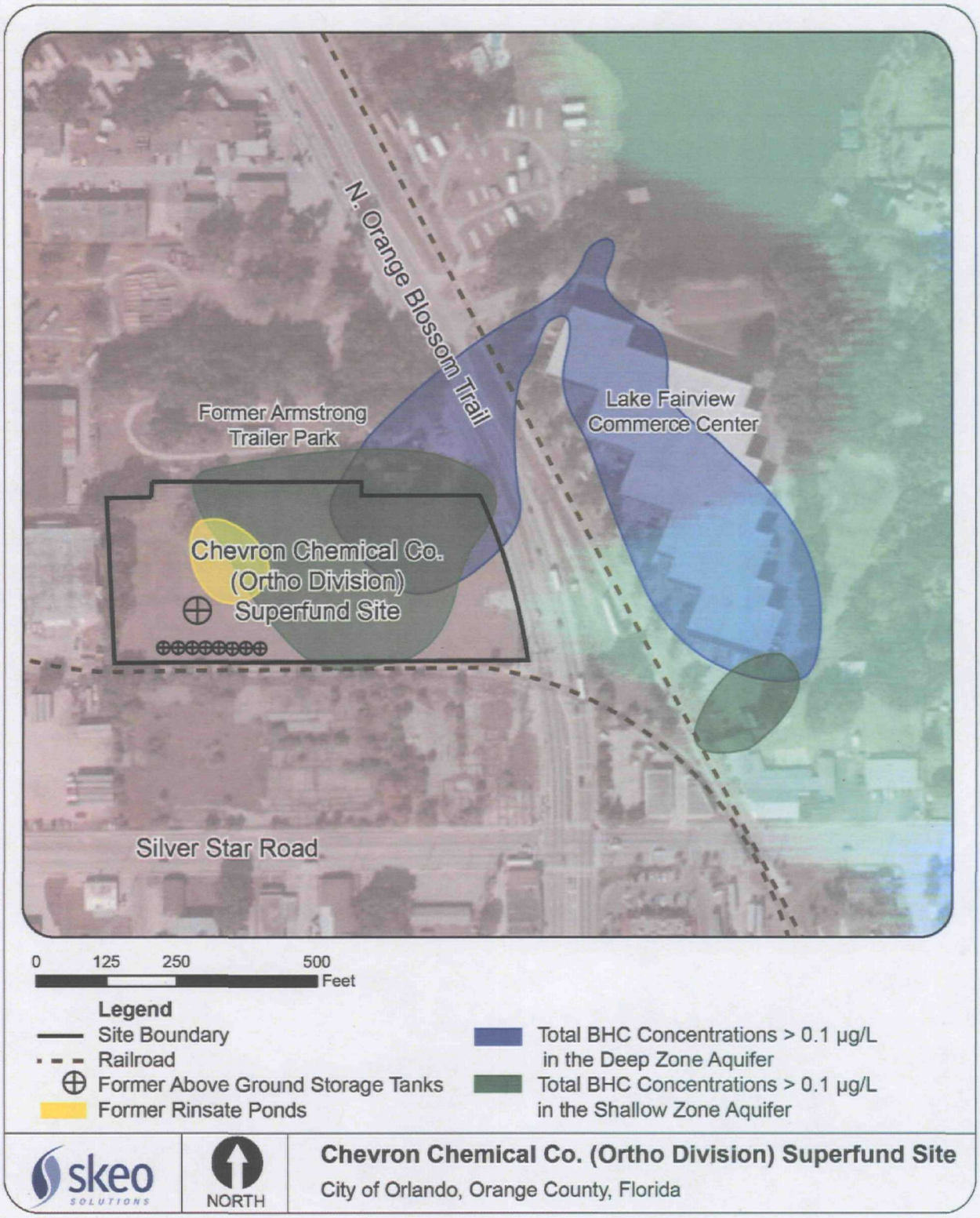
Central Florida Mack Trucks serviced trucks at the property from 1978 until 1986. During operations, the warehouse was washed, the floor was rinsed with mineral spirits and the rinsate was discharged into the old rinsate ponds area. Body work and painting were also conducted on the property. The facility generated waste oil and waste degreasing solvent from cleaning engines and parts. A waste oil trough was located along the railroad spur on the southwestern side of the Site. Used oil filters, waste oil, diesel fuel, paint and partially-filled drums of powdered pesticides were disposed of in the rinsate pond area along with discarded truck parts and debris.

In March 1984, a tanker truck owned by Waste Management Inc., containing 3 percent hydrochloric acid and an unknown grade of nitric acid, was being stored on the property for repair. The tanker leaked an estimated 3,000 to 6,000 gallons of acid, which resulted in an explosion in the vicinity of the western rinsate pond. Waste Management Inc. reportedly excavated the spill area and disposed of the contaminated soils. The excavation was backfilled with clean fill.

From 1987 to 1991, another operator leased the property for vehicle storage. Chevron repurchased the property in foreclosure from First Union Bank and the Resolution Trust Company in 1993 and 1994, respectively. Chevron is the current property owner.

Waste and wastewater disposal practices associated with pesticide formulation activities and truck maintenance and repair activities resulted in contamination of the Site's soil and ground water. Primary contaminants of concern include pesticides, volatile organic compounds (VOCs) and metals.

Figure 3: Generalized Contaminant Plume Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

3.4 Initial Response

Initial environmental investigations were conducted at the Site from 1982 to 1989. The results of these investigations indicated the presence of pesticides, metals and VOCs in soil and/or ground water. In 1990, Chevron entered into an Administrative Order on Consent (AOC) with the EPA and the former owner of Central Florida Mack Trucks to conduct a contamination assessment and develop a removal action plan for the property. The assessment results were used to define general areas of soil and ground water contamination and to plan a soil removal action. The first removal action, conducted from August 1990 through September 1992, involved the following activities:

- Demolition and removal of remaining structures.
- Excavation and off-site disposal of 17,780 tons of pesticide-contaminated soil.
- Excavation and on-site treatment of 4,900 tons of petroleum-contaminated soil.
- Extraction and off-site disposal of 90 to 100 gallons of a free-phase liquid from subsurface soils.
- Recovery and treatment of 126,000 gallons of stormwater and ground water during the soil excavation, with subsequent discharge into an infiltration trench on the property.
- Backfilling of all excavated areas with clean soil, followed by grading and seeding.

In 1993, Chevron voluntarily entered into an AOC with the EPA to conduct a remedial investigation/feasibility study (RI/FS), pursuant to the EPA's Superfund Accelerated Cleanup Model. The AOC required Chevron to evaluate the migration of ground water contaminants and investigate the potential for soil contamination at the adjacent Armstrong Trailer Park. Based on the RI/FS results, an additional removal action to remove a one-foot layer of soil in five designated areas of the Armstrong Trailer Park was completed in September 1994. This removal action included removing 227 tons of soil, backfilling the excavated areas with clean soil, grading and laying sod.

The EPA listed the Site on the National Priorities List (NPL) on May 31, 1994.

3.5 Basis for Taking Action

Chevron conducted a baseline risk assessment in 1996 as part of the RI/FS to evaluate whether exposure to soil and/or ground water would pose unacceptable risks to current or future human receptors or the environment. Based on the baseline risk assessment results, the EPA concluded that there were no unacceptable risks from direct contact exposure to soil at the Site under current or potential future land use conditions. Potential risks from current and future direct contact exposure to the soil at the Armstrong Trailer Park were also found to be within the EPA's acceptable risk range of 1E-06 to 1E-04. The results of the baseline risk assessment indicated that ingestion of ground water would pose unacceptable health risks to future residents due to the presence of volatile organic compounds, pesticides and metals; therefore, the 1996 Record of Decision (ROD) identified ground water as the medium of concern and specified remedial actions to address ground water contamination.

4.0 Remedial Actions

In accordance with CERCLA and the NCP, the overriding goals for any remedial action are protection of human health and the environment and compliance with applicable or relevant and appropriate requirements (ARARs). A number of remedial alternatives were considered for the Site, and final selection was made based on an evaluation of each alternative against nine evaluation criteria that are specified in Section 300.430(e)(9)(iii) of the NCP. The nine criteria are:

1. Overall Protection of Human Health and the Environment
2. Compliance with ARARs
3. Long-Term Effectiveness and Permanence
4. Reduction of Toxicity, Mobility or Volume through Treatment
5. Short-Term Effectiveness
6. Implementability
7. Cost
8. State Acceptance
9. Community Acceptance

4.1 Remedy Selection

The EPA signed the Site's ROD on May 22, 1996. The remedial action objectives (RAOs) for ground water included the following:

- Prevention of potential exposure to contaminated ground water on the Site.
- Prevention of further ground water quality degradation.
- Restoration of ground water quality to the cleanup levels specified in the ROD.

The major components of the 1996 ROD's selected remedy included:

- Monitored natural attenuation (MNA) of the ground water until all cleanup levels are achieved.
- Deed restrictions/notices or other institutional controls to prohibit consumption or use of contaminated ground water until the cleanup standards have been met.
- Routine maintenance at the Site, including fence maintenance, grass mowing and other activities.
- A contingency plan to be implemented if:
  - Contaminant concentrations do not decrease by 10-15 percent within one year,
  - MNA does not continue as expected, or
  - Organic contaminants are detected in either of the sentinel monitoring wells (MW-11 and MW-15).

The EPA issued an Explanation of Significant Differences (ESD) in July 2000, changing the ground water cleanup standards for ethyl benzene and xylenes. The ethyl benzene cleanup standard, specified in the 1996 ROD, was changed from the secondary standard of 30 micrograms per liter (µg/L) to the primary standard of 700 µg/L; the cleanup standard for xylenes, specified in the 1996 ROD, was changed from the secondary standard of 20

µg/L to the primary standard of 10,000 µg/L. The FDEP concurred with the change in ground water cleanup standards, based on ground water cleanup exemptions as noted in Chapter 62-520 of the FAC.

In September 2010, the EPA issued a second ESD, which called for additional work and reduced the arsenic ground water cleanup standard from 50 µg/L to 10 µg/L. The new cleanup standard is based on (the EPA primary drinking water standard and the FDEP ground water cleanup target level).

The RAOs for ground water, as revised by the 2010 ESD, included the following:

- Prevent the potential exposure to contaminated ground water on the Site for human health.
- Restore ground water quality to the cleanup levels specified in the ROD, thereby restoring ground water to potential beneficial use.
- Prevent or minimize migration of contaminated ground water for the protection of the protection of the environment.

The major components of the contingency remedy as listed in the 2010 ESD include:

- Increasing the monitoring frequency in existing wells from annually to quarterly.
- Installing additional monitoring wells.
- Initiating a permeable reactive barrier (PRB) pilot study to determine optimal arrangement and construction for a subsurface filter wall.
- Performing a leachability study to determine the amount of contaminated soil that would need to be removed to allow natural attenuation to serve as an effective means for ground water recovery.

Table 2 summarizes the ground water remediation goals as presented in the 1996 ROD, and revised in the 2000 and 2010 ESDs.

Table 2: Summary of Remediation Goals for Ground Water

Chemical of Concern	Remediation Goal (µg/L)[a]
Benzene	1
Ethyl benzene	700
Xylenes	10,000
Total naphthalenes	100[b]
Dichlorodiphenyldichloroethane (4,4-DDD)	0.1[c]
alpha- Hexachlorocyclohexane (alpha-BHC)	0.05[c]
beta- Hexachlorocyclohexane (beta-BHC)	0.1[c]
gamma-Hexachlorocyclohexane (gamma-BHC or Lindane)	0.2
Chlordane	2
Arsenic	10
Chromium	100
Lead	15[d]

a. Lower of the Federal and State Primary MCLs unless otherwise noted.
b. State target level listed in the 1996 ROD.
c. State guidance concentration listed in the 1996 ROD.
d. Federal action level.

The 2010 ESD called for a leachability study to determine the amount of contaminated soil that would need to be removed to allow natural attenuation to serve as an effective means for ground water recovery. The 2011 Revised Source Reduction Work Plan (Work Plan) prepared by Arcadis developed site-specific target soil concentrations (TSCs) for the four hexachlorocyclohexane (BHC) isomers in soil. These TSCs were developed to be protective of ground water.[1] In addition, the 2011 Work Plan presents an area-weighted average (AWA) approach for using the BHC isomer TSCs in a source reduction (excavation) program.

Leaching to ground water was not considered to be a major transport pathway for toxaphene and chlordane, thus source reduction activities focused on the four BHC isomers. Chlordane concentrations in some on-site locations exceeded levels developed by the Agency of Toxic Substances and Disease Registry (ATSDR) in support of the 1991-1992 on-site removal action [50 milligrams per kilogram (mg/kg) for 0-1 foot below ground and 100 mg/kg for 1-10 feet below ground]. In addition, elevated toxaphene concentrations remain on site following earlier removal actions. The EPA determined that removing the BHC isomers during the source reduction activities would also address chlordane and toxaphene as an added benefit, even though these two compounds do not pose a risk to ground water. Table 3 presents a summary of the TSCs developed in the 2011 Work Plan; these levels were not included in the ROD or the two ESDs.

[1] Since the ROD did not include a ground water cleanup level for delta-BHC, Chapter 62.777 FAC ground water cleanup target level of 2.1 µg/L for delta-BHC was used as a basis for calculating a TSC for delta-BHC.

Table 3: Summary of On-Site Target Soil Concentrations for Soil

Chemical of Concern	TSC (mg/kg)[a]
alpha-BHC	0.120
beta-BHC	0.077
delta-BHC	1.386
gamma-BHC (Lindane)	0.180
Chlordane	50[b]/100[c]

a. As reported in Revised Source Reduction Work Plan. Arcadis. January 2011.
b. Chlordane value for surface soil 0 to 2 feet in depth.
c. Chlordane value for subsurface soil 2 to 5 feet in depth.

4.2 Remedy Implementation

The EPA began the ground water remedy's remedial design on August 12, 1997 and completed it on October 9, 1997. The EPA completed the preliminary close-out report on February 10, 1998.

A restrictive covenant (Appendix B) was placed on the Chevron property on January 11, 2000, as an institutional control to limit future use of the property to commercial/industrial uses and to prevent the drawing of ground water for purposes other than monitoring. Fencing was installed, and Chevron regularly performs routine maintenance such as mowing grass, removing weeds, trimming trees, maintaining the chain-link fence, collecting garbage and debris, and painting the block wall and monitoring well covers at the Site. In addition, Chevron monitors the ground water on a quarterly basis to evaluate the MNA remedy and potential contaminant migration, submitting results to the EPA for review.

The ROD outlined the conditions under which implementation of the contingency plan is required. One of the conditions, the detection of organic contaminants in sentinel monitoring wells MW-11 and/or MW-l5, occurred in 2004, when alpha-BHC was detected at MW-15. This prompted Chevron to initiate a pilot study to evaluate a subsurface filter wall installation. In November 2006, Chevron submitted a permeable reactive barrier (PRB) pilot study work plan to the EPA. By April 2007, Chevron installed three PRBs on site and began monthly ground water monitoring. In November 2007, three additional PRBs were installed on site with EPA approval. The PRB pilot study employs zero valent iron (ZVI) within an organic substrate (also referred to as EHC™) under varying configurations and construction techniques, with the purpose of degrading chlorinated pesticides. The effects of the PRBs on ground water contamination demonstrated that the PRBs have the ability to reduce alpha-BHC concentrations within the contaminated ground water plume across the Site. Based on the pilot study results, Chevron installed an array of PRBs across the Site to capture nearly all of the ground water plume that is migrating off site.

In March 2008, the EPA, FDEP and Chevron met and concurred there may be another source areas requiring further delineation. Chevron began additional delineation on and off of the Chevron property. In April 2009, Chevron installed an additional PRB at the Lake Fairview Commerce Center, located east of the site; Chevron expanded the PRB in November 2009.

In August 2009, Chevron conducted additional on-site soil investigations. In January 2010, Chevron submitted a soil excavation work plan to the EPA for additional source removal. Although the PRBs were initially envisioned to be the primary remedial strategy when the ROD contingency was written, as delineation continued, the EPA determined that the planned soil removal would be of primary importance. As such, the PRBs will act as a polishing treatment for the contaminated ground water plume as it moves toward Lake Fairview.

In September 2010, the EPA issued an ESD to invoke the contingency requirements outlined in the 1996 ROD. The requirements incldued implementing additional ground water remedies through PRB installation, and additional source removal involving excavation of approximately 3,153 cubic yards of contaminated soil from the Site. In addition, the ESD reduced the ground water cleanup standard for arsenic from 50 µg/L to 10 µg/L to meet the EPA's current primary drinking water standard.

In January 2011, Chevron submitted, and the EPA approved, a Source Reduction Work Plan to establish cleanup goals for on-site soil that are protective of ground water. In February 2011, Chevron submitted Pilot Test Work Plan Addendum No. III, which recommended the installation of two additional PRBs and additional soil removal to prevent ongoing impacts to ground water. In October 2011, two additional PRBs were installed to include a second PRB at the Lake Fairview Commerce Center and another PRB at the Site. In addition, Chevron amended the Source Reduction Work Plan to revise the amount of required soil excavation. On November 4, 2011, monitoring wells MW-10S and MW-10D were properly abandoned in preparation for source reduction activities.

In January 2012, as part of the source reduction program, Chevron excavated over 4,000 tons of contaminated soil on site to achieve the TSCs. Prior to backfilling, over 8,000 pounds of EHC™ were placed inside the excavated areas to treat ground water. Two additional PRBs were also installed upon completion of the on-site excavation activities.

In April 2012, Chevron installed a new water treatment system (including poly tanks, carbon drums, pump/piping and enclosure) at the Site to handle any storm water that may accumulate in excavated areas during rain events. Starting in June 2012, Chevron began additional soil and ground water characterization activities at properties offsite and across North Orange Blossom Avenue due to the presence of another plume that appears to emanate from a source south of the Lake Fairview Commerce Center, as illustrated in Figure 3.

4.3 Operation and Maintenance (O&M)

The MNA remedy's remedial design/remedial action program, listed in the 1996 ROD, has undergone a number of changes. Since the first FYR, a number of changes have occurred to the O&M requirements with respect to the number of wells and frequency of monitoring. In August 2012, the EPA approved reducing the sampling frequency from monthly to quarterly. The locations of the wells currently being monitored are shown in Appendix F. A current O&M plan was requested but not available for review during the drafting of this report.

The 1996 ROD's estimated annual O&M cost for the MNA program was $17,160. Yearly O&M costs were not anticipated to increase after the installation of a bioactive filter wall. The average annual cost for the routine O&M activities is approximately $90,000 for each of the last five years, which covers activities including conducting ground water sampling, performing site maintenance (mowing grass, trimming trees and repairing fences) and preparing quarterly site status updates. The O&M costs for the previous FYR period were much higher due to bench-scale testing for the pilot test, preparation of a pilot test work plan and additional monitoring activities.

5.0 Progress Since the Last Five-Year Review

The protectiveness statements from the 2008 FYR for the Site stated the following:

> *The remedy at the Chevron Chemical Company Site currently protects human health and the environment because risks associated with the remaining soils are considered acceptable for industrial use; Site access is being discouraged through fencing; and contaminated ground water is not being used for potable purposes. No drinking or irrigation wells exist currently within the impacted area, and ICs [institutional controls] have been implemented to prevent exposure to ground water on the Chevron property. Attainment of the ground water cleanup goals is expected to be achieved through MNA. In order for the remedy to be protective in the long term, additional ICs need to be identified and/or implemented to restrict the use of water within the affected area until cleanup goals are attained, and the effectiveness of the PRBs is verified.*

The 2008 FYR included six issues and recommendations. Table 4 below summarizes each recommendation and its current status.

Table 4: Progress on Recommendations from the 2008 FYR

Section	Recommendation	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
5.1	Complete the pilot study to evaluate the effectiveness of PRBs to refine the subsurface filter wall contingency remedy and evaluate other contingency options that may enhance the effectiveness of MNA, including additional on-site soil excavation and/or ground water treatment. After completion of the pilot study, issue an ESD to implement the contingency remedy.	Chevron	February 2010	Complete. Pilot study began in April 2007 and was completed in 2010. ESD was issued to invoke the contingency plan outlined in the 1996 ROD. A total of eight PRBs were installed on site and one off site.	9/20/2010

Section	Recommendation	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
5.2	Collect soil data to evaluate if any residual source areas remain on-site at levels that would allow leaching of contaminants into the ground water and result in continued, off-site migration of contaminated ground water, affecting the success of the MNA remedy.	Chevron	April 2009	Complete. Additional source area delineation occurred March 2008 through 2009, approximately 4,000 tons of contaminated soil were excavated on site and disposed off site; over 8,000 pounds of EHC™ was placed inside excavated areas to treat ground water prior to backfilling the excavated area.	1/30/2012
5.3	Work with the SJRWMD to restrict the installation of irrigation and/or potable water wells on parcels in close proximity to the Chevron property and the contaminant plume boundary.	Chevron	December 2009	Ongoing. Discussions are ongoing with the SJRWMD.	Ongoing
5.4	Collect additional ground water data in order to completely delineate the horizontal and vertical extent of ground water contamination.	Chevron	April 2009	Ongoing. New monitoring wells were installed on and off site from June 2008 to February 2012.	Ongoing
5.5	Evaluate the available data against regulatory revisions to the ROD and removal action cleanup goals. If needed, issue an ESD to revise the cleanup goals to those that are determined to be protective.	Chevron	February 2010	Complete. An ESD was issued to address the change in arsenic drinking water standard from 50 µg/L to 10 µg/L. Soil cleanup goals were developed in the Source Reduction Work Plan that are protective for leaching to ground water. The ESD did not include soil cleanup goals.	9/30/2010

Section	Recommendation	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
5.6	After installation of new monitoring wells is complete, collect one full round of samples, analyze them for all 12 site-related contaminants listed in Table 9 of the ROD, and compare the ground water concentrations to the cleanup goals. Based on these and historical results, modify the ground water monitoring program, if warranted.	Chevron	December 2009	Complete. The EPA approved the Proposed Groundwater Monitoring Program Modifications.	10/9/2012

5.1 Pilot Study and Issuance of an ESD

Organic contaminants detected in sentinel monitoring well MW-15 in May 2004 triggered the ROD contingency. A pilot study was initiated in April 2007 and completed in 2010 involving the installation of six PRBs on site and one PRB off site. An ESD was issued on September 30, 2010, to invoke the contingency plan outlined in the 1996 ROD, which included approval for additional excavation of approximately 3,153 cubic yards of contaminated site soils to protect ground water, installation of two additional PRBs on site, and addition of EHC™ in the excavation area prior to backfilling to treat ground water.

5.2 Soil Leachability Studies

Based on the previous FYR, insufficient data were available to determine whether contaminants remain in soil at levels that may represent on ongoing leaching concern to the underlying ground water. In January 2011, leachability studies were conducted and TSCs were developed for soil that are protective of ground water. By January 2012, over 4,000 cubic yards of soil were removed and disposed of off site to improve the effectiveness of natural attenuation for ground water recovery.

5.3 Permitting with St. Johns Water River Management District

Institutional controls have been implemented at the Site in the form of a restrictive covenant (Appendix B) placed on the Chevron property on January 11, 2000. The restrictive covenenant prevents the drawing of ground water for purposes other than monitoring. In addition, engineering controls such as fencing have been constructed to prevent access to the Site. Although all properties located offsite from the Chevron property receive municipal water, restrictions are not in place to ensure that wells are not installed or to prevent any existing wells from being used in the future. This is a concern since the contaminant plume as shown in Appendix F, has migrated off site to downgradient parcels at levels above the established ground water cleanup levels. In

addition, a ground water delineation area as defined by FAC Rule 62-524.420 of the has not been established for this area to restrict well installations. However, the EPA continues to work with the SJRWMD to implement a Memorandum of Understanding to prevent wells from being permitted within the zone of ground water contamination, or within close enough proximity to cause the contaminant migration.

5.4 Collection of Additional Ground Water Delineation Data

Since the last FYR, 15 additional monitoring wells have been installed, from June 2008 to February 2012, to delineate ground water contamination both on and off the Chevron property. Ground water continues to be monitored according to the latest monitoring plan (See Section 5.6 below).

5.5 Evaluation of Available Data to Determine if Cleanup Goals Require Revision

The previous FYR recommended that the available ground water data be evaluated against regulatory revisions in the ESDs and removal action cleanup goals, and, if needed, that an ESD be issued to revise the cleanup goals to those determined to be protective. An ESD was finalized on September 30, 2010, which revised the arsenic ground water cleanup goal from 50 µg/L to 10 µg/L based on the most current EPA and FDEP primary drinking water standards. In addition, Chevron developed leachability-based cleanup goals for soil as part of the January 2011 Revised Source Reduction Work Plan; however, these soil cleanup goals have not been included in an ESD.

5.6 Evaluation of Data from Newly Installed Monitoring Wells

Fifteen additional monitoring wells were installed since the last FYR. Ground water monitoring continues according to the Proposed Groundwater Monitoring Program Modifications approved by the EPA on October 9, 2012. The results of the monitoring data since the previous FYR are presented in Section 6.4.

6.0 Five-Year Review Process

6.1 Administrative Components

The EPA initiated the FYR in November 20, 2012 and scheduled its completion for July 2013. EPA remedial project manager (RPM) James Hou led the EPA site review team, which also included, the EPA community involvement coordinator (CIC) L'Tonya Spencer and contractor support provided to the EPA by Skeo Solutions. On January 8, 2013 the EPA held a scoping discussion with the review team prior to completing the site inspection to discuss the Site and items of interest as they related to the protectiveness of the remedy currently in place. The review schedule established consisted of the following activities:

- Community notification.
- Document review.
- Data collection and review.
- Site inspection.
- Local interviews.
- FYR report development and review.

6.2 Community Involvement

On January 10, 2013, a public notice was published in the legal classified section of the *Orlando Sentinel*, announcing the start of the FYR for the Site, providing Mr. James Hou's contact information, and inviting the community's questions, comments and concerns. No comments were received from any parties. A copy of the notice is provided in Appendix C.

The EPA will make the final FYR report available to the public. The EPA will place copies of the document in the designated site repository: Orlando Public Library (Edgewater Branch, 6250 Edgewater Drive, Orlando, Florida 32810). Upon completion of the FYR, the EPA will place a public notice in the *Orlando Sentinel* newspaper to announce the availability of the final FYR report in the Site's document repository.

6.3 Document Review

This FYR included a review of relevant site-related documents, including the ROD, ESDs, remedial action reports and recent monitoring data. Appendix A provides a complete list of the documents reviewed.

ARARs Review

CERCLA Section 121(d)(1) requires that Superfund remedial actions attain "a degree of cleanup of hazardous substances, pollutants, and contaminants released into the environment and of control of further release at a minimum which assures protection of human health and the environment." The remedial action must achieve a level of cleanup that at least attains those requirements that are legally applicable or relevant and appropriate.

- Applicable requirements are those cleanup standards, standards of control and other substantive requirements, criteria or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, remedial action, location or other circumstance found at a CERCLA site.

- Relevant and appropriate requirements are those standards that, while not "applicable," address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards more stringent than federal requirements may be applicable or relevant and appropriate.

- To-Be-Considered (TBC) criteria are non-promulgated advisories and guidance that are not legally binding, but should be considered in determining the necessary remedial action. For example, TBC criteria may be particularly useful in determining health-based levels where no ARARs exist or in developing the appropriate method for conducting a remedial action.

Chemical-specific ARARs are health- or risk-based numerical values or methodologies which, when applied to site-specific conditions, result in the establishment of numerical values. These values establish an acceptable amount or concentration of a chemical that may remain in, or be discharged to, the ambient environment. Examples of chemical-specific ARARs include maximum contaminant levels (MCLs) under the federal Safe Drinking Water Act and ambient water quality criteria enumerated under the federal Clean Water Act.

Action-specific ARARs are technology- or activity-based requirements or limits on actions taken with respect to a particular hazardous substance. These requirements are triggered by a particular remedial activity, such as discharge of contaminated ground water or in-situ remediation.

Location-specific ARARs are restrictions on hazardous substances or the conduct of the response activities solely based on their location in a special geographic area. Examples include restrictions on activities in wetlands, sensitive habitats and historic places.

Remedial actions are required to comply with the chemical-specific ARARs identified in the ROD. In performing the FYR for compliance with ARARs, only those ARARs that address the protectiveness of the remedy are reviewed.

Ground Water ARARs

The 1996 ROD established primary drinking water standards as chemical-specific ARARs for most of the chemicals of concern (COC) in ground water, except for ethyl benzene and total xylenes. According to the 2000 ESD, when the 1996 ROD was written, It was thought that levels of ethyl benzene and xylene below the primary drinking water standards may

have been increasing the solubility of the BHC isomers, making them more mobile in the ground water at the Site. Therefore, instead of specifying the primary standards as cleanup goals for the protection of human health, the ROD specified the more stringent, secondary standards as the cleanup standards for ethyl benzene and xylene in an attempt to address any cosolvency issues. Secondary drinking water standards address undesirable properties of water such as color, odor and amount of dissolved solids and are not based on health threats; as a result, the secondary values are not ARARs but represent to-be-considered values. The 2000 ESD revised the cleanup standards for ethyl benzene and xylene to the primary drinking water standards because a study was conducted that found that concentrations of xylene as high as an order of magnitude above those present at the Site had no effect on the solubility of the BHC isomers. Therefore, the report concluded that xylene does not act as a cosolvent to increase the BHC solubility at the Site. Although the study addressed xylene, both EPA and FDEP agreed to the report's conclusions and agreed to change the cleanup goals for both xylene and ethyl benzene to the primary drinking water standards developed for tbe protection of human health.

In September 2010, an ESD was issued which included a revised cleanup goal for arsenic; the 1996 ROD cleanup goal of 50 µg/L was revised to reflect the current drinking water standard of 10 µg/L. A summary of the ground water ARARs are presented in Table 5.

Table 5: Previous and Current ARARs for Ground Water COCs

Chemical of Concern	2000 and 2010 ESD ARARs (µg/L)	Current ARARs (µg/L)[a]	ARARs Change
Benzene	1	1	None
Ethyl benzene	700[b]	700	None
Xylenes	10,000[b]	10,000	None
Total naphthalenes	ND	ND	None
4,4-DDD	ND	ND	None
alpha- hexachlorocyclohexane (alpha-BHC)	ND	ND	None
beta- hexachlorocyclohexane (beta-BHC)	ND	ND	None
gamma-hexachlorocyclohexane (gamma-BHC or Lindane)	0.2	0.2	None
Chlordane	2	2	None
Arsenic	10[c]	10	None
Chromium	100	100	None
Lead	15	15	None

a. Lower of the Federal and State Primary MCLs. Federal MCLs are available at http://water.epa.gov/drink/contaminants/index.cfm (last accessed 1/2/2012); FDEP MCLs are available at http://www.dep.state.fl.us/water/drinkingwater/standard.htm (accessed 1/2/2013) .

b. Revised in 2000 ESD to replace the secondary drinking water standards of 30 µg/L and 20 µg /L with the primary drinking water standards for ethyl benzene and xylenes, of 700 µg/L and 10,000 µg/L, respectively.

c. Revised in the 2010 ESD to replace the1996 arsenic primary drinking water standard of 50 µg/L with the current arsenic primary drinking water standard of 10 µg/L.

ND not determined because an ARAR has not been established for this COC.

Soil ARARs

The 1996 ROD did not include remedial measures for soil. However, the 2010 ESD invoked the contingency remedy described in the ROD, which included further source removal to prevent ongoing impacts to ground water. The 2010 ESD did not specify soil ARARs; cleanup goals for soil contaminants were based on site-specific leachability studies. See Section 4.1 for a discussion of soil cleanup goals.

Institutional Controls Review

On January 1, 2013, Skeo staff conducted research at the Orange County Property Appraisers website (http://www.ocpafl.org/searches/parcelsearch.aspx) and located the deed information pertaining to the Site listed in Table 6. As stated in Section 5.3, the institutional controls are in place for the site property through a restrictive covenant, but the restrictive covenant does not address the portion of the plume that has migrated beyond the

site boundary. The EPA continues to work with the SJRWMD to implement an MOU; the intent of the MOU is for the EPA to give the SJRWMD adequate information on contaminant concentrations and extent of contamination at Superfund sites to prevent permitting of wells within a zone of ground water contamination, or within close enough proximity to cause the migration of contaminants.

Table 6: Deed Documents from Orange County Public Records Office

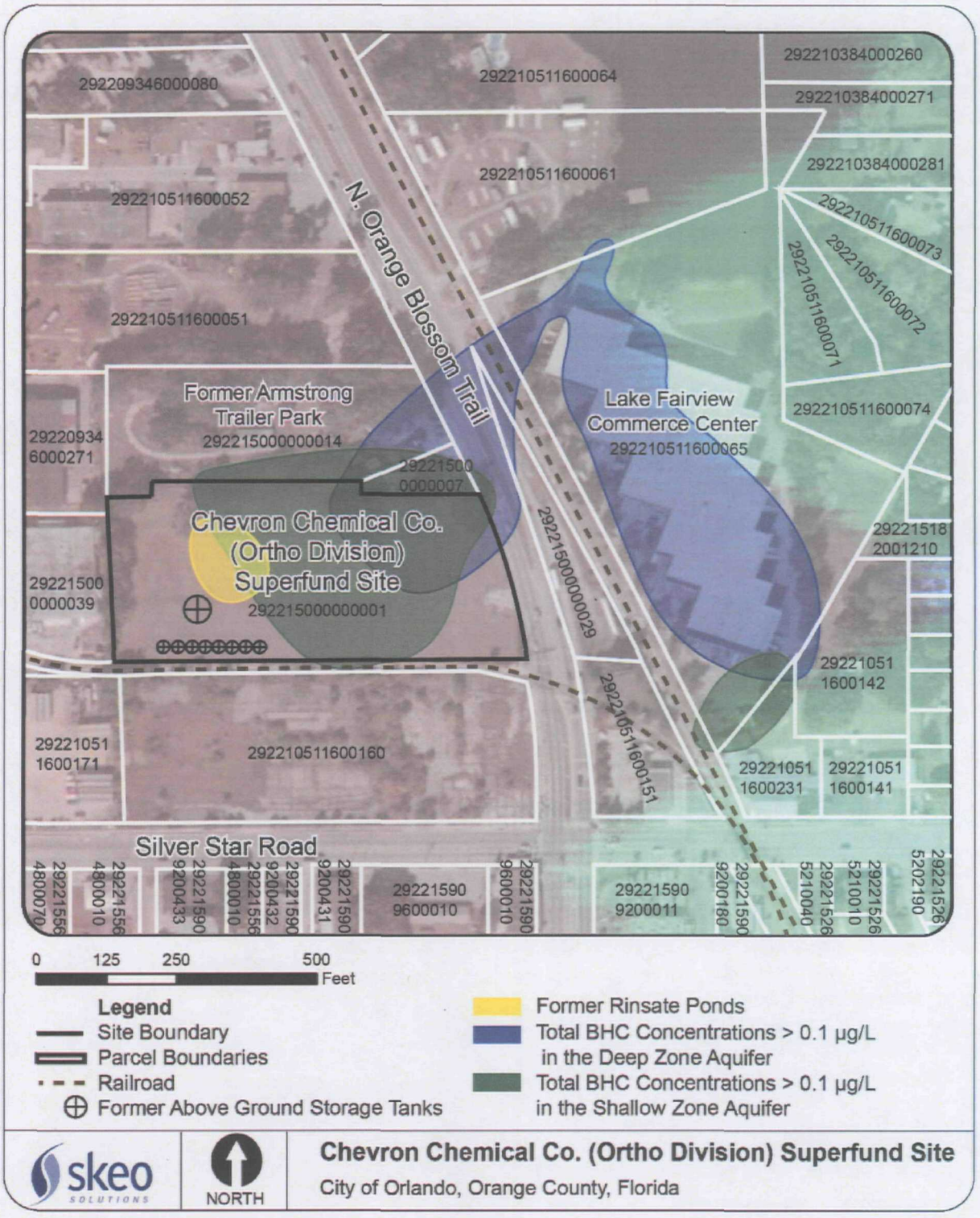
Date	Type of Document	Description	Book #	Page #
July 15, 1993	Deed	Chevron repurchased the property in foreclosure from First Union Bank and the Resolution Trust Company in 1993 and 1994, respectively, and Chevron USA is the current property owner.	4594	340
September 15, 2000	Quit Claim Deed	Quit claim between Chevron to Chevron Oronite Company, LLC.	6151	730
March 29, 2000	Quit Claim Deed	Quit claim between Chevron Oronite Company, LLC and Chevron USA Inc.	6246	4598
January 11, 2000	Restrictive Covenant	Restrictive covenant to prevent residential development and use of ground water at the Site.	5943	4978

Table 7 lists the institutional controls associated with areas of interest at the Site. In addition, Figure 4 illustrates the land parcels overlying the contaminated shallow and deep aquifer plumes based on total BHC levels to illustrate where institutional controls for off-site ground water should be implemented. As shown, two plumes exist and appear to merge off site. Chevron is currently investigating potential sources for the plume that appears to be emanating from a source south of the Lake Fairview Commerce Center.

Table 7: Summary of Institutional Controls

Medium	ICs Needed?	ICs Called for in the Decision Documents?	Impacted Parcels	IC Objective	Instrument in Place	Notes
On-site Ground Water	Yes	Yes	29-22-15-000000001	Restrict access to or usage of contaminated ground water until cleanup goals are achieved.	Restrictive Covenant	The covenant restricts use and access of ground water and also restricts the property for industrial, manufacturing or commercial purposes.
Off-site Ground Water	Yes	Yes	29-22-15-000000014 29-22-15-000000007 29-22-15-000000029 29-22-10-511600065 29-22-10-511600142 29-22-10-511600231	Restrict access to or usage of contaminated ground water until cleanup goals are achieved.	None	A restrictive covenant is warranted because the contaminant plume has migrated off site above cleanup goals.
Soil	Yes	Yes		Restrictive Covenant prohibits the us of the Site for unrestricted uses.	Restrictive Convenant	Portions of the Site were excavated to industrial-based levels and portions of the Site were excavated to site-specific leachability-based levels and covered with clean soil.

Figure 4: Land Parcels Overlying Contaminant Plumes



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

6.4 Data Review

Soil

Since the 2008 FYR, additional evaluations of the soil data were performed including an analysis of the leaching potential of soil contaminants. Soil leaching was identified as a concern in the 2008 FYR as part of the overall strategy designed to achieve ground water cleanup goals for the COCs. The TSCs were used to guide the source reduction soil excavation activities to ensure that the area-weighted average concentrations were below the TSCs. In January 2012, impacted soil was excavated and disposed of off site. EHC™ slurry was added to excavated areas from 5 to 7 feet below ground surface (bgs), followed by backfilling with clean fill and seeding. The remaining area-wide soil concentrations achieved in surface and subsurface soil for the source areas following the 2012 excavation are summarized in Table 8.

Table 8: Evaluation of Pesticide Concentrations in Source Areas Following the January 2012 Excavation Activities

COC	Area Weighted Concentration (mg/kg)	TSC[a] (mg/kg)
Surface Soil (0 – 2 ft bgs)		
alpha-BHC	0.017	0.120
beta-BHC	0.024	0.077
delta-BHC	0.028	1.386
gamma-BHC (Lindane)	0.009	0.180
Chlordane	1.4	50
Toxaphene	2.5	ND
Subsurface Soil (2 – 5 ft bgs)		
alpha-BHC	0.025	0.120
beta-BHC	0.024	0.077
delta-BHC	0.036	1.386
gamma-BHC (Lindane)	0.058	0.180
Chlordane	2.1	100
Toxaphene	0.94	ND

a. As reported in Revised Source Reduction Work Plan. Arcadis. January 2011.

Ground Water

Appendix F provides figures to illustrate the monitoring well network (Figure F-1), location of PRBs (Figure F-2), location of recent soil excavation (Figure F-3) and a presentation of the shallow and deep aquifer zone plume for total BHCs Figures F-4 and F-5, respectively. A comparison of the lateral extents of the dissolved-phase BHC plume emanating from the Chevron property in October 2008 and October 2011 within the shallow (Figure F-4) and deeper (Figure F-5) ground water zones indicates that the ground

water conditions have generally been stable over this three year period. Also shown in Figures F-4 and F-5 is a second plume that appears to be emanating from a source south of the Lake Fairview Commerce Center. Source(s) that may be contributing to the second plume are currently being investigated.

In the last five years ground water trends continue to fluctuate which is expected, as a result of Arcadis constructing additional PRBs on site and off site as well as conducting additional excavation of impacted vadose zone soils on site. In April 2009 a PRB was installed at the Lake Fairview Commerce Center which was expanded in November 2009 to include placement of additional EHC™ in the PRB. In September 2011 impacted soil was excavated from the Site followed by installation of an additional PRB at the Lake Fairview Commerce Center and installation of an additional PRB at the Site. Finally, in January 2012 additional vadose zone soils were excavated on site and EHC™ slurry was placed in the excavation prior to filling and covering to reduce further BHC-leaching from soils to ground water. As a result of the ongoing remedial activities, total BHC concentrations have fluctuated. The cleanup goals for the different BHC isomers range between 0.05 μg/L for alpha-BHC to 0.2 μg/L for gamma-BHC. Figure 5 shows the trends observed in shallow and deep ground water zones in MW-4S and MW-4D, respectively, which are located downgradient from the former on-site source area. As shown, the concentrations following the source reduction increased and then decreased with the addition of a PRB in the area and then increased again in August 2012. Although the fluctuations in concentrations exceed the cleanup goals for the different BHC isomers downgradient of source area actions, the evaluation of short-term, post-remedial data is of limited value to provide a useful indication of how the source remediail action has affected ground water quality.

Figure 6 provides a summary of the off-site monitoring wells located at the Lake Fairview Commerce Center at the leading edge of the plume prior to entering Lake Fairview. As shown, the total BHC concentrations continue to decline with distance from the former source; however, the concentrations remain elevated above the BHC-isomers' cleanup goals which is to be expected since remedial actions at the source were only recently taken. In order to better understand the influence of the recent Site remedial actions on the ground water concentartions both on the Chevron Site property as well as offsite, it is recommended that data obtained from monitoring points between now and the next FYR be evaluated relative to the locations and dates when the remedial actions occurred to confirm that concentrations are beginning to decrease (or are in the process of decreasing) in response to the remedial actions that have recently occurred.

Figure 5: Summary of Total BHC Concentrations Downgradient of Former On-Site Source Area (µg/L)

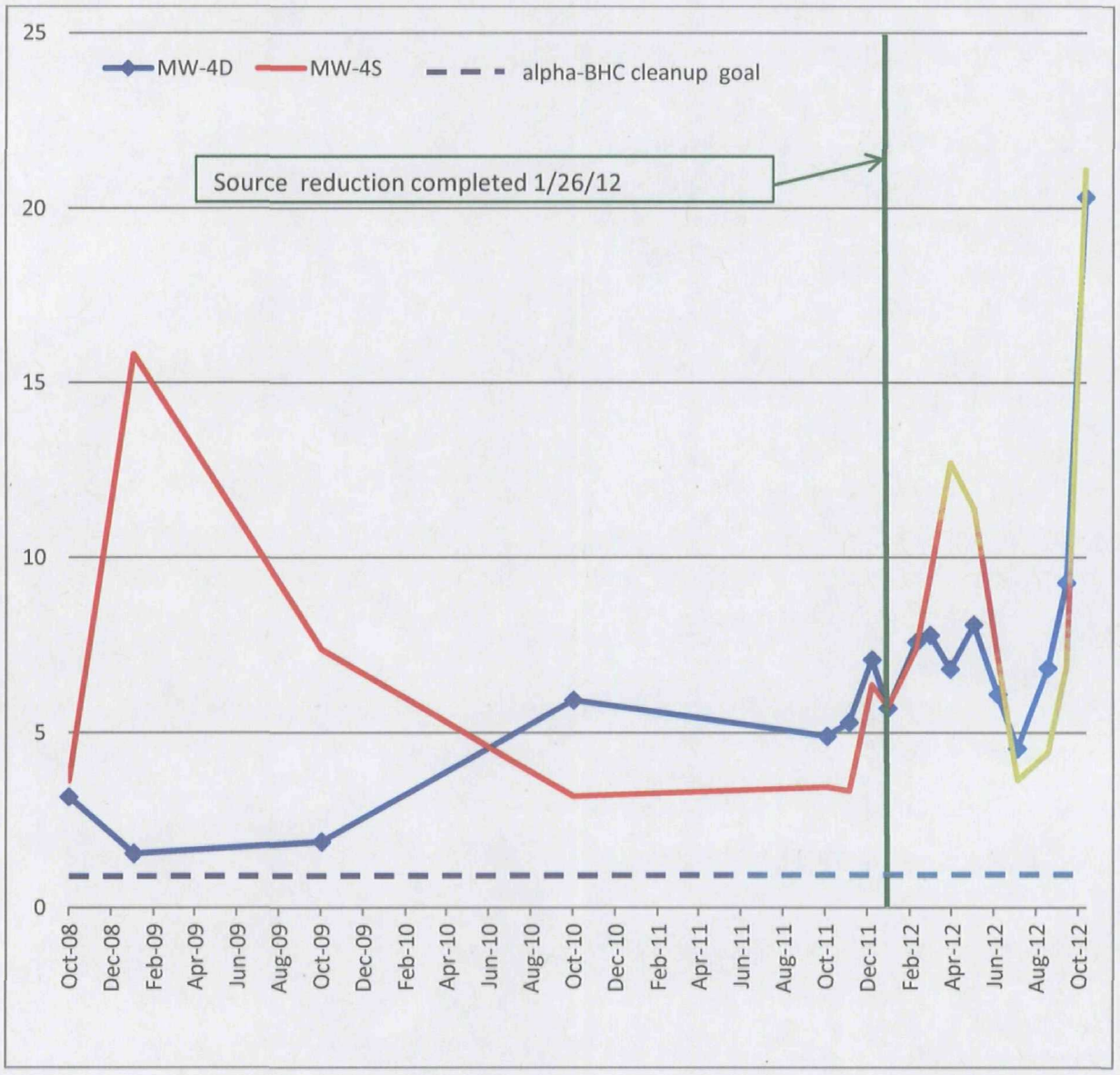
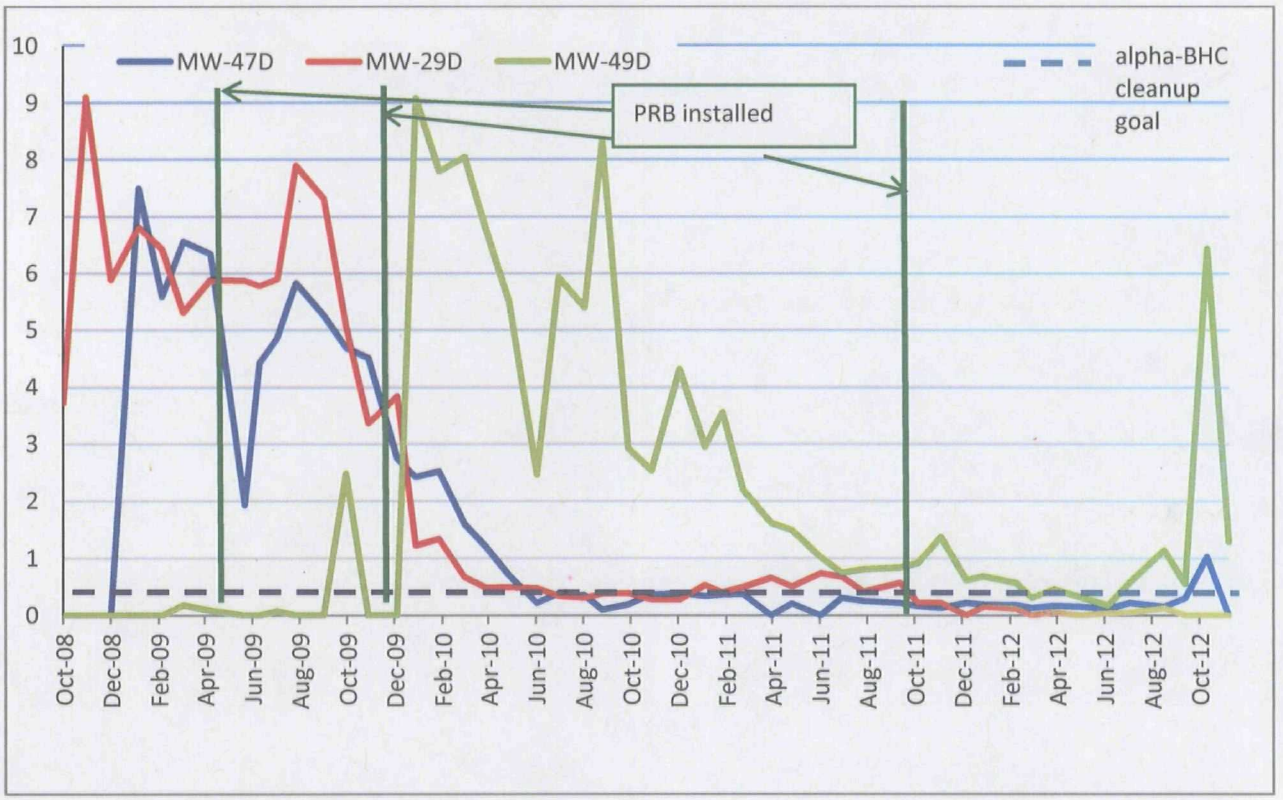


Figure 6: Summary of Total BHC Concentrations in the Off-Site Downgradient Wells (µg/L)



6.5 Site Inspection

The site inspection was held on January 8, 2013. In attendance were James Hou, the EPA RPM; Mark Stella, Chevron Environmental Manager; Susan Klinzing Tobin, Professional Geologist, TASK Environmental, Inc.; Allen Just, Arcadis; and Treat Suomi and Claire Marcussen of Skeo Solutions. For a full list of site inspection activities, see the Site Inspection Checklist in Appendix E. For photographs of the Site, see Appendix G.

During the site inspection, James Hou, the EPA RPM, provided an update of the Site's status while Allen Just led the tour of the site property identifying relevant site features, including the location of the former rinsate pond area, soil removal areas, recent soil remediation areas, retaining wall on the north side of the Site, and on-site monitoring wells. In addition, site inspection participants visited the surrounding properties to include the former Armstrong Trailer Park, a small engine-repair shop located adjacent to the northeast comer of the Site, the Lake Fairview Commerce Center located across N. Orange Blossom Trail to the northeast of the Site, a portion of Lake Fairview adjacent to a mobile home community located to the northeast of the Site and also located across N. Orange Blossom Trail. Other features observed were secured monitoring wells at various off-site locations. The Site has not yet been put into reuse.

The Site is surrounded by security fencing to limit access to the site properties. At several locations on the fence there were "no trespassing" signs posted. Repaired areas were observed where the southern boundary fencing by the railroad tracks had been tampered with. Ms. Tobin explained that breaching occurs periodically; however, the fencing is routinely monitored to ensure any access issues are addressed. The entire Site is covered by grass or mulch mixed with sand where soils were removed during past remedial activities. The only building feature on site is a temporary shed that houses a treatment system for untreated purge water as well as field equipment. The remainder of the Site is an open undulating field of grass and mulch with several old oak trees along northern edge of the Site. The monitoring wells included both flush-mounted wells and stick-up mounted; all were observed to be in good condition and secured with locks.

On January 7, 2013, Skeo Solutions staff visited the designated site repository, Edgewater Public Library, located at 5049 Edgewater Drive, in Orlando, Florida, as part of the site inspection. The only site document included in the repository was a copy of the 2008 FYR. The librarian indicated that there were no additional documents available electronically through the library computer system. The EPA will update the records at the library upon completion of the current FYR.

6.6 Interviews

The FYR process included interviews with parties affected by the Site, including the current landowners and regulatory agencies involved in Site activities or aware of the Site, as well as a resident living north of the property. The purpose was to document the perceived status of the Site and any perceived problems or successes with the remedy phases implemented to date. One interview took place during the site inspection on January 8, 2013; interviews with the EPA, FDEP and the O&M contractors took place following the site inspection. The interviews are summarized below. Appendix D provides the complete interviews.

James Hou: James Hou is the EPA RPM for the Site and is pleased with the recent remedial activities, installation of the PRBs and source area excavations, which are having a positive impact on contaminant concentrations within the ground water plume. Mr Hou expects the effects on the plume to be more pronounced with time. Mr. Hou indicated that the institutional controls on the Site are currently sufficient to address exposure to both contaminated ground water and soil. However, further coordination is needed with the water management district to restrict the use of ground water within the contaminated ground water plume at off-site locations.

Karen Milicic: Karen Milicic of FDEP, stated that the remedial activities appear to be effective in reducing the BHC concentrations in ground water. Ms. Milicic is comfortable with the status of institutional controls and was not aware of any state law changes that would affect the remedy.

Mark Stella: Mark Stella is the project manager for Chevron. Mr. Stella indicated that he believes the remedy is progressing at a good pace and is the appropriate remedy for the

Site. Mr. Stella also indicated that there is no evidence that recent activities (in the last 10 years) have had any effect on the local community. Mr. Stella indicated that he was aware that someone has expressed an interest in purchasing the property.

Susan Tobin: Susan Tobin is the O&M project manager for the PRP, Chevron. Ms. Tobin indicated that Chevron takes a pro-active approach to understand the site conditions and performance of remedial measures. Ms. Tobin also stated that Chevron has been conservative in approaching reuse, to ensure that any risks associated with the Site are minimized before beneficial reuse is implemented. Ms. Tobin also indicated that following the source reduction activities in 2012, the ground water monitoring frequency has been reduced to quarterly sampling events, and the number of wells from which samples are collected has been reduced, resulting in a cost savings for Chevron.

Resident: The resident of the former Armstrong Trailer park was aware of the environmental issues at the Site and the cleanup activities that have occurred. The resident did not notice any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing. The resident was interested in receiving information in future via the mail and also expressed an interest in seeing the property put into reuse as a storage facility or warehouse.

7.0 Technical Assessment

7.1 Question A: Is the remedy functioning as intended by the decision documents?

The review of decision documents, ARARs and the results of the site inspection indicate that parts of the remedy are functioning as intended by the ROD and ESDs. Contaminated soils have been excavated and removed from the Site and surrounding areas. Although the cleanup levels for ground water have not yet been achieved, frequent monitoring is conducted to provide a basis to evaluate the performance of the MNA component of the ground water remedy. In general, there have been significant trends of decreasing concentrations at the monitoring wells that have been in place since the last FYR; however, the concentrations continue to be well above the cleanup goals for the different BHC isomers and an increasing trend is observed for total BHCs starting in August 2012. Due to a number of remedial activities that have occurred during this FYR, ongoing long-term monitoring will improve the understanding of the effectiveness of these activities as the ground water stabilizes. Institutional controls are in place through a restrictive covenant that restricts use of the site property to industrial and commercial uses. In addition, the restrictive covenant states that ground water under the property shall not be accessed or used for any purpose whatsoever. However, there is no restriction on contaminated water that has migrated off site. Institutional controls are needed on properties in areas impacted by the site-related contaminant plume to prevent permitting of wells.

The final ground water and source control remedies have been recently completed to include installation of additional PRBs and completion of soil remediation. O&M activities are ongoing to include monitoring of the ground water well network. Additional sampling is ongoing to determine if there are additional source areas off site and to monitor the effectivenss of the PRBs and MNA since concentrations of BHCs appear to be increasing as indicated in the October 2012 monitoring event. During the site inspection, monitoring wells were observed to be in good condition and fencing has been maintained.

Source area reduction was completed in January 2012 on the Chevron property to reduce contaminant migration from vadose zone soil to ground water. After excavation activities, vadose zone soil residual concentrations were compared to construction worker screening levels and were all below the screening levels.

7.2 Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of remedy selection still valid?

The ARARs used at the time of the remedy selection are still valid. The ground water ARARs have not changed for any of the COCs since the 2010 ESD.

A component of the contingency remedy summarized in the 2010 ESD, was the performance of a leachability study to determine the amount of contaminated soil that would need to be removed to allow natural attenuation to serve as an effective means for site ground water recovery. The additional soil remediation was completed in January 2012 on the Site; however, the TSCs were based on leaching and did not address direct exposure

to human receptors. Therefore to determine if the residual contamination remaining after the January 2012 soil excavation is also protective of human exposure to soils, this FYR compared the AWA concentrations of the former source area to residential and commercial-based Regional Screening Levels (RSLs) published by the EPA in November 2012. Based on this comparison the AWA concentrations were determined to fall within the EPA's risk management range for carcinogens of 1E-06 to 1E-04 and below the noncancer hazard index (HI) of 1. Additional details of this evaluation is presented in Appendix I.

In addition, residual COC concentrations remain on the Chevron property outside the former source area and these data are summarized in Appendix H. The residual concentrations remaining at the Site are represented by 792 samples collected over 4.39 acres. As a conservative health protective screen, this FYR compared the maximum concentration of these samples for each COC to RSLs based on residential and commercial land uses to estimate the maximum residential and commercial risk. Based on these comparisons and the high number of nondetects, the residual site contamination potentially may fall within the EPA's risk management range for residential use. However, this must be confirmed by a cumulative risk evaluation. An evaluation of unrestricted use may find that once ground water reaches cleanup goals, institutional controls will no longer be needed for on-site soil due to the soil removal activities. The PRP may wish to conduct a baseline risk assessment on residual on-site soil concentrations under a unrestricted use exposure scenario to determine whether institutional controls will be required in the future for on-site soil.

Finally, toxicity factors for some of the COCs have changed since the baseline risk assessment was conducted in 1995. A summary of the toxicity factors available from the EPA in 1995 compared with current toxicity values is presented in Appendix I and illustrates that the majority of the oral cancer slope factors (CSFs) and inhalation unit risk factors (IURs) have not changed and for those values that did become more stringent, the results do not impact the remedy's protectiveness. The details of this analysis are further described in Appendix I.

To determine whether the risk-based cleanup goals remain valid they were compared to the most current RSLs. Based on the comparison to RSLs, the cleanup goals for alpha-BHC, beta-BHC, and 4,4-DDD still remain protective as the associated cancer risk and noncancer hazard based result in risks within the EPA's risk management range and HI well below the threshold of 1.0. The details of this evaluation are presented in Appendix I.

Since the1996 ROD, naphthalene which has been detected at the Site, has been classified as a potential carcinogen via the inhalation route of exposure by the California Environmental Protection Agency (CalEPA). However based on the uncertainties associated with this classification as a potential carcinogen, the FDEP ground water cleanup target level is considered to be protective for both cancer and noncancer endpoints supporting that the cleanup goals in ground water remain valid as discussed in more detail in Appendix I.

To evaluate whether the soil cleanup goals for on-site soil remain valid based on changes in toxicity values, the cleanup goals were compared to the RSLs. The results of this comparison as presented in detail in Appendix I, indicate that the leachability-based cleanup goals established in the Revised Source Reduction Work Plan (Arcadis, 2011) still remain protective for direct exposure since the associated cancer risk and noncancer hazards results in industrial risks within the EPA's risk management range and HI well below the threshold of 1.0. It should be noted however, that the cleanup goals have not been documented in a ROD or ESD.

7.3 Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has been presented that could call into question the protectiveness of the remedy.

7.4 Technical Assessment Summary

According to the data reviewed, the site inspection, and the interviews, the remedial components in place are currently protective of human health and the environment and are functioning as intended by the 1996 ROD, 2000 ESD and 2010 ESD. Although the 1996 ROD indicated that the soil at the Site poses no risk from direct contact to current or future receptors based on an evaluation of current workers and future trespasser, construction worker and residential scenarios, additional source area contamination was identified and characterized in 2009. In January 2011, leachability-based soil cleanup goals were developed as recommended in the 2010 ESD; soil remediation activities were completed in January of 2012. The Site is secured by fencing and institutional controls are in place to limit site use to industrial purposes.

Although the ground water remediation goals have not yet been achieved, there is no current exposure to ground water. There are no potable or irrigation wells within the extent of the plume, and an institutional control prohibiting potable uses of ground water is in place for the Chevron property. Additional institutional controls are needed to restrict the construction of water wells and the use of ground water in the vicinity of the Site.

8.0 Issues

Table 9 summarizes the current site issues.

Table 9: Current Site Issues

Issue	Affects Current Protectiveness?	Affects Future Protectiveness?
Contaminated ground water at concentrations exceeding cleanup goals has migrated offsite of the Chevron property boundary.	No	Yes
Ground water ICs are not in place in all areas affected by the ground water plume.	No	Yes
Ground water contaminant concentrations appear to be fluctuating following the recent remedial actions.	No	Yes
A current O&M plan was not available for review during the FYR process.	No	Yes

9.0 Recommendations and Follow-up Actions

Table 10 provides recommendations to address the current site issues.

Table 10: Recommendations to Address Current Site Issues

Issue	Recommendation / Follow-Up Action	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness?	
					Current	Future
Contaminated ground water at concentrations exceeding cleanup goals has migrated offsite of the Chevron property boundary.	Ensure the current remedy prevents further migration.	PRP	EPA	9/30/2014	No	Yes
Ground water ICs are not in place in all areas affected by the ground water plume.	Implement additional ground water use ICs that prevent access and use of contaminated ground water.	PRP	EPA	9/30/2014	No	Yes
Ground water contaminant concentrations appear to be fluctuating following the recent remedial actions.	Continue to evaluate contaminant trends over time to confirm that concentrations are in the process of decreasing in response to the remedial action.	PRP	EPA	9/30/2014	No	Yes
A current O&M plan was not available for review during the FYR process.	EPA should confirm that there is a current O&M plan in place and if not, request that one be developed.	PRP	EPA	9/30/2013	No	Yes

The following additional item, though not expected to affect protectiveness, warrants additional follow-up:

- In support of the recommended/follow-up action to the third issue identified above, it is recommended that a figure is also provided that shows the areas that had been excavated and dates of excavation, as well as the location of all the PRBs with installation dates. This figure will enhance the understanding of the contaminant trend analysis over time to evaluate the effectiveness of the remedy.

10.0 Protectiveness Statements

The remedy at the Site currently protects human health and the environment in the short-term, because institutional controls are in place to limit the Site to industrial use; unauthorized site access is discouraged through secured fencing. In addition, no drinking or irrigation wells exist currently within the impacted area, and institutional controls have been implemented to prevent exposure to ground water on the Chevron property.

In order for the remedy to be protective in the long term, additional institutional controls need to be identified and/or implemented to restrict the use of water within the affected area until cleanup goals are attained. In addition, to ensure protectiveness in the long term, continue to evaluate contaminant trends over time to confirm that concentrations are in the process of decreasing in response to the remedial action.

11.0 Next Review

The next FYR will be due within five years of the signature/approval date of this FYR.

Appendix A: List of Documents Reviewed

ARCADIS. 2011. Revised Source Reduction Work Plan. Chevron Orlando Superfund Site. Janaury 2011.

ARCADIS. 2012. Source Reduction Report. Chevron Orlando Superfund Site. June 2012.

ARCADIS. 2012. Proposed Groundwater Monitoring Program Modifications. August 14, 2012.

EPA 1996. Record of Decision (ROD). Issued by EPA to Chevron on May 22.

EPA 2000 Explanation of Significant Differences. Chevron Chemical Company-Ortho Division. Orlando, Orange County, Florida. July 2000.

EPA 2010 Explanation of Significant Differences. Chevron Chemical Company-Ortho Division Orlando, Orange County, Florida. September 2010.

FDEP. 2012. Site Summary. Chevron Chemical Company – Ortho Division available at: http://www.dep.state.fl.us/waste/quick_topics/publications/wc/sites/summary/110.pdf

Geomega. 2003 First Five-Year Review for Chevron Chemical Company Site, Orlando, Florida. Prepared for US EPA Boulder, CO: Geomega Inc. March 2003.

Geomega. 2008 Second Five-Year review for Chevron Chemical Company Site, Orlando, Florida. Prepared for US EPA Boulder, CO: Geomega Inc. September 2008.

TASK Environmental, 1994. Removal Action Report Amendment for the Chevron Chemical Company Site. July 27, 1994

Appendix B: Restrictive Covenant

Prepared by/return to: Julie F.
R. PAUL ROECKER, Esquire
Greenberg Traurig P.A.
111 N. Orange Ave., Suite 2050
Orlando, Florida 32801

Orange Co FL 2000-0068398
02162000 03:15:55pm
OR Bk 5943 Pg 4978
Rec 19.50

Declaration of Covenants, Conditions, Restrictions and Releases

THIS DECLARATION OF COVENANTS, CONDITIONS, RESTRICTIONS AND RELEASES (this "Declaration") is made as of the 11th day of January, 2000, by CHEVRON CHEMICAL COMPANY LLC, a Delaware limited liability company ("Chevron").

RECITALS

A. Chevron is the fee simple owner of that certain real property located in Orange County, Florida, (the "Property"), being more particularly described as 4.39 acres, more or less, in Section 15, Township 22 South, Range 29 East, and bearing the municipal address 3100 North Orange Blossom Trail, Orlando, Florida. The Property is further identified by the United States Environmental Protection Agency ("EPA") as Superfund Site number 0400520, and by the Florida Department of Environmental Protection ("FDEP") as facility number 110.

B. From approximately 1950 until 1976, Chevron handled, blended and packaged various pesticides on the Property (hereinafter sometimes referred to as the "Prior Use").

C. In 1990, Chevron and EPA executed an Administrative Order on Consent with respect to the Property, under the terms of which Chevron performed remedial action on and underlying the Property to satisfy requirements of EPA as set forth in said administrative order; and

D. EPA issued a Unilateral Administrative Order effective August 7, 1997, setting forth various tasks for Chevron to perform on and underlying the Property, and setting forth dates for completion of such tasks; and

E. Chevron desires to institute covenants, conditions and restrictions affecting the Property, in accordance with EPA's requirements from the Record of Decision and subsequent orders.

NOW THEREFORE, Chevron hereby declares that the Property and all portions thereof shall be and are hereby, made subject to this Declaration and the provisions and restrictions

hereinafter set forth, which Declaration, provisions and restrictions shall run with title to the Property and all portions thereof:

1. The above captioned recitals are incorporated herein by reference. Although Chevron believes that the matters set forth in the recitals are true and correct, Chevron makes no representations or warranties as to their accuracy or the completeness of same. Instead, the recitals are intended to place prospective purchasers of the Property on notice of the Prior Use and the reasons for the restrictions placed on the use of the Property herein, in order that such prospective purchasers may conduct due diligence and satisfy themselves of the Property condition and its suitability for their intended use.

2. The Property shall be used solely for industrial or manufacturing purposes, or for commercial purposes, excluding, however, any use or business involving temporary or permanent housing of individuals, including but not limited to homes, mobile homes, hotels, motels, apartments, hospitals, nursing and residential care facilities, residential mental retardation, mental health and substance abuse facilities, community care facilities for the elderly, retirement communities, community housing services, or temporary shelters, and further excluding commercial facilities involving the extended presence of minors on the Property, such as schools, parks or day-care facilities.

3. The groundwater under the Property shall not be accessed or used for any purpose whatsoever, including, but not limited to, for drinking, cooking, irrigation or bathing, until said groundwater meets all applicable and relevant or appropriate requirements of EPA and the State of Florida Department of Environmental Protection; provided, however, that Chevron, or any entity acting on Chevron's behalf, may access and use the water on the Property to conduct periodic testing for determining contaminant levels therein.

4. **CHEVRON MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, OF ANY KIND OR NATURE WHATSOEVER, WITH RESPECT TO THE PROPERTY, AND ALL SUCH REPRESENTATIONS AND WARRANTIES ARE HEREBY DISCLAIMED. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, CHEVRON MAKES NO EXPRESS OF IMPLIED WARRANTY OF SUITABILITY, HABITABILITY OR FITNESS OF THE PROPERTY FOR A PARTICULAR PURPOSE OR USE OR FOR ANY USE, INCLUDING, WITHOUT LIMITATION, A PERMITTED USE, OR AS TO THE MERCHANTABILITY, VALUE, QUALITY, CONDITION OR SALABILITY OF THE PROPERTY, NOW OR IN THE FUTURE.**

OR Bk 5943 Pg 4979
Orange Co FL 2000-0068398

5. a. This Declaration, and the provisions, conditions, covenants, restrictions, obligations and releases set forth herein, shall run with title to the Property and all portions thereof and be binding upon the Property and the Purchasers from time to time of the Property and any and all portions thereof for an initial period commencing on the date hereof and expiring on the date which is fifty (50) years from the date hereof; provided, however, that Chevron may, in Chevron's sole, absolute and unfettered discretion, elect to extend such initial fifty (50) year period for up to five (5) additional periods of ten (10) years each (the initial fifty (50) year period

together with all extension periods which Chevron elects to exercise being referred to collectively as the "Term") by recording, in the appropriate Public Records of Orange County, a document entitled Extension of Declaration of Covenants, Conditions, Restrictions and Releases prior to the expiration of the initial fifty (50) year period of the Term and prior to the expiration of each successive ten (10) year extension period. Upon the expiration of the Term (as the same may have been extended as aforesaid) all provisions of this Declaration shall terminate, be null and void and of no further force and effect.

b. Notwithstanding paragraph 5.a. above, once Chevron, its successors or assigns have satisfied EPA and FDEP target levels in soil and groundwater, as specified in the Record of Decision and subsequent orders or other amendments, then Chevron, its successors or assigns may rescind the restrictions set forth in this Declaration by recording an instrument so stating in the official record of Orange County, Florida.

6. This Declaration may be enforced by Chevron, its successors and assigns, through injunctive action in addition to any other remedies available under law.

7. This Declaration shall be governed by, construed, interpreted and enforced under and in accordance with the laws of the State of Florida, and, if applicable, the laws of the United States of America.

IN WITNESS WHEREOF, Chevron has caused this Declaration to be executed by its duly authorized officer or other representative as of the date first written above.

OR Bk 5943 Pg 4980
Orange Co FL 2000-0068398

WITNESSES:

CHEVRON CHEMICAL COMPANY LLC,
a Delaware limited liability company

By: _____
Print Name: H. P. WALKER
Title: Assistant Secretary
Corporate Seal

CHEVRON CHEMICAL COMPANY LLC
FORMATION
NOVEMBER 20, 1997
DELAWARE

OR Bk 5943 Pg 4981
Orange Co FL 2000-0068398
Recorded - Martha O. Haynie

State of California)
City and) ss
County of San Francisco)

On February 14, 2000, before me, **P. E. Primus**, a Notary Public in and for the State of California, personally appeared H. P. Walker, Assistant Secretary of Chevron Chemical Company LLC, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he or she executed the within instrument in his or her authorized capacity, and that by his or her signature on the within instrument, the person or the entity upon behalf of which the person acted executed the within instrument.

WITNESS my hand and official seal.

P. E. Primus

Commission Expires: May 21, 2003

PC01 P. E. PRIMUS PC01
COMM. #1219840
NOTARY PUBLIC-CALIFORNIA
SAN FRANCISCO COUNTY
My Comm. Expires May 21, 2003

STATE OF FLORIDA - COUNTY OF ORANGE
I HEREBY CERTIFY that this is a copy of the document as recorded in this office.
MARTHA O. HAYNIE, COUNTY COMPTROLLER
By: _____, D.C.
DATED: 2-16-00

COUNTY COMPTROLLER SEAL ORANGE COUNTY, FLA.

Appendix C: Public Notice

The U. S. Environmental Protection Agency, Region 4 Announces the Third Five-Year Review for the Chevron Chemical Company (Ortho) Superfund Site, Orlando, Orange County, Florida

Purpose/Objective: The U.S. Environmental Protection Agency (EPA) is conducting a Five-Year Review of the remedy for the Chevron Chemical Company (Ortho) Superfund site (the Site) in Orlando, Florida. The purpose of the Five-Year Review is to make sure the selected cleanup actions effectively protect human health and the environment.

Site Background: The 4.39-acre Site is located at 3100 North Orange Blossom Trail (Highway 441) in Orlando, Florida. From 1950 and 1976, a pesticide formulation plant operated at the Site. During that time, the facility received unblended products in bulk liquid and powder form and blended the products to make pesticides and nutritional sprays for bulk wholesale distribution. The unblended products arrived primarily by rail and were then formulated on site, packaged in drums, and shipped off site by truck. In 1978, the site property was sold to Central Florida Mack Trucks, which operated a diesel truck sales, service and repair facility until 1986. Body work and painting operations also took place at the Site. The facility generated waste oil and waste degreasing solvents. In 1984, a tanker truck owned by Waste Management Inc. filled with 3 percent hydrochloric acid and an unknown amount of nitric acid leaked an estimated 3,000 to 6,000 gallons of acid. The leak resulted in an explosion near the Site's western rinsate pond.

Historical waste and wastewater disposal practices associated with pesticide formulation activities and truck maintenance and repair activities contaminated site soil and ground water. Primary contaminants of concern include pesticides, volatile organic compounds (VOCs) and metals. Following site investigations between 1986 and 1993, EPA placed the Site on the National Priorities List (NPL) on May 31, 1994.

Cleanup Actions: Removal actions in 1990, 1991 and 1993 focused on source material such as soil, free-phase liquid from subsurface soils, and stormwater and ground water recovered during the excavations. EPA's 1996 Record of Decision (ROD) selected a remedy to address remaining soil and ground water contamination. The remedy included monitored natural attenuation of the ground water, deed restrictions/notices or institutional controls, routine maintenance, and a contingency plan if ground water components of the remedy did not effectively decrease contamination or contaminant migration.

In May 2004, a sentinel monitoring well detected an organic pesticide from the Site, triggering implementation of contingency measures including increased monitoring frequency, installation of additional monitoring wells, and initiation of a permeable reactive barrier pilot study and a soil study to determine the level of residual contamination in on-site soils. EPA issued an Explanation of Significant Differences in September 2010 to invoke the contingency and document significant changes to the Site's remedy.

Five-Year Review Schedule: The National Contingency Plan requires review of remedial actions that result in any hazardous substances, pollutants or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure every five years to ensure the protection of human health and the environment. The third of the Five-Year Reviews for the Site will be completed by September 2013.

EPA Invites Community Participation in the Five-Year Review Process: EPA is conducting this Five-Year Review to evaluate the effectiveness of the Site's remedy and to make sure the remedy remains protective of human health and the environment. As part of the Five-Year Review process, EPA staff members are available to answer any questions about the Site. Community members who have questions about the Site or the Five-Year Review process, or who would like to participate in a community interview, are asked to contact:

James Hou, EPA Remedial Project Manager
Phone: (404) 562-8965
Email: hou.james@epa.gov

L'Tonya Spencer, EPA Community Involvement Coordinator
Phone: (404) 562-8463 | (800) 564-7577(toll-free)
Email: Spencer.LaTonya@epa.gov

Mailing Address: U.S. EPA Region 4, 61 Forsyth Street, S.W., 11th Floor, Atlanta, GA 30303-8960

Additional site information is available at the Site's local document repository, located at Edgewater Public Library 5049 Edgewater Drive, Orlando, Florida 32810, and online at: *http://www.epa.gov/region4/superfund/sites/npl/florida/chevchemfl.html*.

Appendix D: Interview Forms

Chevron Chemical Company (Ortho Division) Superfund Site — **Five-Year Review Interview Form**

Site Name: Chevron Chemical Company (Ortho Division) **EPA ID No.:** FLD004064242

Interviewer Name: Claire Marcussen **Affiliation:** Skeo Solutions

Subject Name: James Hou **Affiliation:** EPA

Subject Contact Information: (404) 562-8965

Time: **Date:** 1/22/2013

Interview Location: EPA Office

Interview Format (circle one): In Person Phone (Mail) Other:

Interview Category: EPA Remedial Project Manager

1. **What is your overall impression of the project (cleanup, maintenance and reuse activities)?**

   The Chevron Ortho Site is progressing smoothly, and benefits from having a responsible and proactive PRP. Recent remedial activities appear to be having a positive impact on contaminant concentrations within the ground water plume, and the impacts from the source excavations expected to be more pronounced with time.

2. **What effects has this Site had on the surrounding community, if any?**

   Remedial activities at the Chevron Ortho Site have had minimal impacts to the surrounding community. Land use in the area is commercial/industrial. The installation of the Permeable Reactive Barriers did necessitate some intrusion on the Lake Fairview Commerce Center parking lot, but those activities were brief in duration. The affected areas were repaved once the PRBs were installed.

3. **How well do you believe the remedy currently in place is performing? Do you believe the monitoring data shows the remedy's effectiveness?**

   The current remedy is working as intended. Soil excavations were conducted throughout 2011, in conjunction with the installation of Permeable Reactive Barriers. Based upon recent monitoring results, these remedial activities have been effective in reducing contaminant concentrations throughout the groundwater plume.

4. **Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?**

   I am not aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup.

5. **Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?**

ICs on the Chevron property are currently sufficient in addressing exposure to both contaminated groundwater and soil. However, further coordination is needed with the water management district to restrict the use of groundwater within the contaminated groundwater plume.

6. **Are you aware of any changes in projected land use at or near the site?**

   Land use in the area is currently commercial/industrial, and is not projected to change.

7. **Do you feel well informed about the site's activities and progress?**

   I am well informed of the activities at the site. I am provided with quarterly reports on site activities and have semiannual meetings with FDEP, Chevron, Arcadis, and Task Environmental.

8. **Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?**

   I have been very pleased with how proactive Chevron has been in addressing new information and implement remedial activities.

Chevron Chemical Company (Ortho Division) Superfund Site — Five-Year Review Interview Form

Site Name: Chevron Chemical Company (Ortho Division) **EPA ID No.:** FLD004064242

Interviewer Name: **Affiliation:**

Subject Name: Mark Stella **Affiliation:** PRP Project Member

Subject Contact Information: 4800 Fournace Place E-530 A

Time: 13:00 **Date:** 01/23/2013

Interview Location:

Interview Format (circle one): In Person Phone (Mail) Other:

Interview Category: Potentially Responsible Parties (PRPs)

1. **What is your overall impression of the remedial activities at the Site?**

   The remedial activities are progressing on a good pace and the remedy is appropriate for the site.

2. **What have been the effects of this Site on the surrounding community, if any?**

   There is no evidence that recent activities (last 10 years) have had any effect on the local community.

3. **What is your assessment of the current performance of the remedy in place at the Site?**

   The remedy is progressing on pace and is appropriate for the site.

4. **Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?**

   I am only aware that someone has expressed an interest in purchasing the property.

5. **Do you feel well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?**

   I am well informed of progress

6. **Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?**

   Yes, in my experience of working on EPA Led sites (15 years) this site is being handled well by the agency and it is a pleasure to work with the agencies in the cooperative manner, that the project has been run.

Chevron Chemical Company (Ortho Division) Superfund Site | **Five-Year Review Interview Form**

Site Name: Chevron Chemical Company (Ortho Division) | **EPA ID No.:** FLD004064242

Interviewer Name: | **Affiliation:**

Subject Name: Susan Tobin | **Affiliation:** TASK Environmental, Inc.

Subject Contact Information:

Time: 10:54 | **Date:** January 22, 2013

Interview Location: Mount Dora, Florida

Interview Format (circle one): In Person | Phone | Mail | Other: e-mail

Interview Category: O&M Contractor

1. **What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?**

   Chevron is very pro-active in their approach to understanding the site conditions and performance of remedial measures. Chevron has been conservative in their approach to reuse, to ensure that any risks associated with the site are minimized before beneficial reuse is implemented.

2. **What is your assessment of the current performance of the remedy in place at the Site?**

   The remedy appears to be working well. Post source reduction groundwater data suggest that the 2012 source reduction activities have been effective.

3. **What are the findings from the monitoring data? What are the key trends in contaminant levels that are being documented over time at the Site?**

   To be answered by Arcadis.

4. **Is there a continuous on-site O&M presence? If so, please describe staff responsibilities and activities. Alternatively, please describe staff responsibilities and the frequency of site inspections and activities if there is not a continuous on-site O&M presence.**

   TASK inspects the site monthly and performs maintenance activities to include mowing, weed and trash removal, irrigation of trees, and well purge water treatment. We also conduct quarterly groundwater sampling.

5. **Have there been any significant changes in site O&M requirements, maintenance schedules or sampling routines since start-up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy? Please describe changes and impacts.**
6.

   The sampling schedule has changed over time to add or subtract monitor wells and to change the sampling frequency. These changes do not affect the protectiveness or effectiveness of the remedy.

7. **Have there been unexpected O&M difficulties or costs at the Site since start-up or in the last five years? If so, please provide details.**

   No.

8. **Have there been opportunities to optimize O&M activities or sampling efforts? Please describe changes and any resulting or desired cost savings or improved efficiencies.**

   Following the source reduction activities in 2012, the groundwater monitoring frequency has been reduced to quarterly sampling events, and the number of wells from which samples are collected has been reduced. This will result in a cost savings for Chevron.

9. **Do you have any comments, suggestions or recommendations regarding O&M activities and schedules at the Site?**

   No.

Chevron Chemical Company (Ortho Division) Superfund Site **Five-Year Review Interview Form**

Site Name: Chevron Chemical Company (Ortho Division) **EPA ID No.:** FLD004064242

Interviewer Name: Treat Suomi **Affiliation:** Skeo Solutions

Subject Name: Resident **Affiliation:**

Subject Contact Information:

Time: 10:09 am **Date:** 1/8/2013

Interview Location:

Interview Format (circle one): X In Person Phone Mail Other:

Interview Category: Residents

1. **Are you aware of the environmental issues at the Site and what cleanup activities have occurred?**

   Yes.

2. **What effect has this site had on the surrounding community, if any?**

   It has not had any effect that I am aware of.

3. **Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?**

   No.

4. **Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?**

   There was information a few years ago. In the future the mail is the best way to provide information.

5. **Do you own a private well in addition to accessing city/municipal water supplies? If so, for what purpose(s) is your private well used?**

   No.

6. **Do you have any comments, suggestions or recommendations regarding any aspects of the project?**

   No. But they should sell the property and put it into reuse as a storage facility or warehouse.

Chevron Chemical Company (Ortho Division) Superfund Site **Five-Year Review Interview Form**

Site Name: Chevron Chemical Company (Ortho Division) **EPA ID No.:** FLD004064242

Interviewer Name: **Affiliation:**

Subject Name: Karen Milicic **Affiliation:** FDEP

Subject Contact Information: 850-245-8927, ext 5931

Time: 14:51 **Date:** 1/14/2013

Interview Location: FDEP Tallahassee Office

Interview Format (circle one): In Person Phone XMail Other:

Interview Category: State Agency

1. **What is your overall impression of the project?**

   Progressing well.

2. **How well do you believe the remedy currently in place is performing?**

   Based on recent reports, it appears to be working in reducing BHCs.

3. **Are you comfortable with the institutional controls required for the Site and their current status of implementation?**

   Yes.

4. **Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents in the last five years?**

   No, I am not aware of any complaints/ inquiries regarding the Chevron Site.

5. **Has your office conducted any site-related activities or communications in the last five years? If so, please give purpose and results of these activities.**

   Yes, FDEP Site Investigation conducted activities south of the Chevron Site. FDEP Site Investigation has been working with Chevron's Contractor TASK Environmental, Inc., in exchanging data regarding the groundwater sampling results from monitor wells in the vicinity. This helps reduce the amount of duplication for both parties.

6. **Are you aware of any changes to state laws that might affect the protectiveness of the remedy? Are you aware of any changes in projected land use at the Site?**

   No, not at this time.

7. **Do you feel well informed about the site's activities and progress?**

   Yes.

8. **Do you have any comments, suggestions, or recommendations regarding the Site's management or operation?**

   Not at this time.

Appendix E: Site Inspection Checklist

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST

I. SITE INFORMATION

Site Name: Chevron Chemical Company Site	**Date of Inspection: January 8 , 2013**
Location and Region: Orange County, Florida	**EPA ID: FLD004064242**
Agency, Office or Company Leading the Five-Year Review: EPA Region 4	**Weather/Temperature: 75 Degrees Fahrenheit, humid, overcast**

Remedy Includes: (Check all that apply)

- ☐ Landfill cover/containment
- ☒ Access controls
- ☒ Institutional controls
- ☐ Ground water pump and treatment
- ☐ Surface water collection and treatment
- ☒ Monitored natural attenuation
- ☐ Ground water containment
- ☐ Vertical barrier walls
- ☒ Other: Removal of source soils on site and installation of Permeable Reactive Barriers (PRBs) on site and off site to treat contaminated ground water where reactive material has been placed in the subsurface pathway of the contaminated ground water plume. Ground water is remediated as contaminants are either immobilized or transformed into innocuous compounds as they come into contact with the reactive material.

Attachments: ☒ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (check all that apply)

1. **O&M Site Manager**	Susan Tobin Name	President, TASK Environmental Title	01/22/2013 Date

Interviewed ☐ at site ☒ at office ☐ by phone Phone: (352) 383-0717
Problems, suggestions ☐ Report attached: _____

2. **O&M Staff**	_____ Name	_____ Title	mm/dd/yyyy Date

Interviewed ☐ at site ☐ at office ☐ by phone Phone: _____
Problems/suggestions ☐ Report attached: _____

3. **Local Regulatory Authorities and Response Agencies** (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply.

Agency EPA				
Contact	James Hou	Remedial Project Manager	01/22/2013	(404) 562-8965
	Name	Title	Date	Phone No.

Problems/suggestions ☐ Report attached: _____

Agency FDEP				
Contact	Karen Milicic	Project Manager	01/14/2013	(850) 245-8931
	Name	Title	Date	Phone No.

Problems/suggestions ☐ Report attached: _____

Agency _____				
Contact	_____	_____	_____	_____
	Name	Title	Date	Phone No.

Problems/suggestions ☐ Report attached: _____

Agency _____				
Contact	_____	_____	_____	_____
	Name	Title	Date	Phone No.

Problems/suggestions ☐ Report attached: _____

Agency _____				
Contact	_____	_____	_____	_____
	Name	Title	Date	Phone No.

Problems/suggestions ☐ Report attached: _____

4. **Other Interviews** (optional) ☒ Report attached: see Appendix D

Residents: Resident in former Armstrong Trailer Park.

Business Owner: Mr. Mark Stella, Chevron Environmental Manager

III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)

1. **O&M Documents**

☐ O&M manual	☒ Readily available	☐ Up to date	☐ N/A
☐ As-built drawings	☒ Readily available	☐ Up to date	☐ N/A
☐ Maintenance logs	☒ Readily available	☐ Up to date	☐ N/A

Remarks: _____

2.	**Site-Specific Health and Safety Plan**	☐ Readily available	☐ Up to date	☒ N/A
	☐ Contingency plan/emergency response plan	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

3.	**O&M and OSHA Training Records**	☒ Readily available	☒ Up to date	☐ N/A

Remarks: _____

4.	**Permits and Service Agreements**			
	☐ Air discharge permit	☐ Readily available	☐ Up to date	☒ N/A
	☐ Effluent discharge	☐ Readily available	☐ Up to date	☒ N/A
	☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☒ N/A
	☐ Other permits: _____	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
5.	**Gas Generation Records**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
6.	**Settlement Monument Records**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
7.	**Ground Water Monitoring Records**	☒ Readily available	☒ Up to date	☐ N/A
	Remarks: _____			
8.	**Leachate Extraction Records**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
9.	**Discharge Compliance Records**			
	☐ Air	☐ Readily available	☐ Up to date	☒ N/A
	☐ Water (effluent)	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
10.	**Daily Access/Security Logs**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			

IV. O&M COSTS

1.	**O&M Organization**	
	☐ State in-house	☐ Contractor for state
	☐ PRP in-house	☒ Contractor for PRP
	☐ Federal facility in-house	☐ Contractor for Federal facility
	☐ _____	

2. **O&M Cost Records**

☒ Readily available ☐ Up to date

☐ Funding mechanism/agreement in place ☐ Unavailable

Original O&M cost estimate: $17,160 ☐ Breakdown attached

Total annual cost by year for review period if available

From: 01/01/2008 Date	To: 12/31/2008 Date	$90,000 Total cost	☐ Breakdown attached
From: 01/01/2009 Date	To: 12/31/2009 Date	$90,000 Total cost	☐ Breakdown attached
From: 01/01/2010 Date	To: 12/31/2010 Date	$90,000 Total cost	☐ Breakdown attached
From: 01/01/2011 Date	To: 12/31/2011 Date	$90,000 Total cost	☐ Breakdown attached
From: 01/01/2012 Date	To: 12/31/2012 Date	$90,000 Total cost	☐ Breakdown attached

3. **Unanticipated or Unusually High O&M Costs during Review Period**

Describe costs and reasons: Costs are averaged to cover ground water monitoring, site maintenance.

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

A. Fencing

1. **Fencing Damaged** ☐ Location shown on site map ☐ Gates secured ☐ N/A

Remarks: Damage observed however the breach appeared to be repaired; O&M contractor indicated that fencing was monitored monthly; access gate is locked.

B. Other Access Restrictions

1. **Signs and Other Security Measures** ☐ Location shown on site map ☐ N/A

Remarks: Signs posted on fence indicating no trespassing.

C. Institutional Controls (ICs)

1. **Implementation and Enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ☒ No ☐ N/A

Site conditions imply ICs not being fully enforced ☐ Yes ☒ No ☐ N/A

Type of monitoring (e.g., self-reporting, drive by): Self Reporting

Frequency: As needed

Responsible party/agency: Chevron Environmental Management Company

Contact	Mark Stella	Project Manager	mm/dd/yyyy	_____
	Name	Title	Date	Phone no.

Reporting is up to date ☒ Yes ☐ No ☐ N/A

Reports are verified by the lead agency ☒ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met ☒ Yes ☐ No ☐ N/A

Violations have been reported ☐ Yes ☐ No ☒ N/A

Other problems or suggestions: ☐ Report attached

2. **Adequacy** ☐ ICs are adequate ☒ ICs are inadequate ☐ N/A

Remarks:

D. General

1. **Vandalism/Trespassing** ☐ Location shown on site map ☐ No vandalism evident

Remarks: South fence showed areas where fence was cut to gain access by railroad tracks; however, the fence is monitoring monthly and any breaches are repaired.

2. **Land Use Changes On Site** ☐ N/A

Remarks: The PRP indicated that an entity has expressed interest in purchasing the property.

3. **Land Use Changes Off Site** ☐ N/A

Remarks: Site is surrounded primarily by light industry and commercial land uses except for a single resident at the former Armstrong Trailer Park and a mobile home community located to the northeast of the Site across N. Orange Blossom Trail.

VI. GENERAL SITE CONDITIONS

A. Roads ☒ Applicable ☐ N/A

1. **Roads Damaged** ☐ Location shown on site map ☒ Roads adequate ☐ N/A

Remarks: _____

B. Other Site Conditions

Remarks: _____

VII. LANDFILL COVERS ☐ Applicable ☒ N/A

A. Landfill Surface

1.	**Settlement** (low spots)	☐ Location shown on site map	☐ Settlement not evident
	Arial extent: _____		Depth: _____
	Remarks: _____		
2.	**Cracks**	☐ Location shown on site map	☐ Cracking not evident
	Lengths: _____	Widths: _____	Depths: _____
	Remarks: _____		
3.	**Erosion**	☐ Location shown on site map	☐ Erosion not evident
	Arial extent: _____		Depth: _____
	Remarks: _____		
4.	**Holes**	☐ Location shown on site map	☐ Holes not evident
	Arial extent: _____		Depth: _____
	Remarks: _____		
5.	**Vegetative Cover**	☐ Grass	☐ Cover properly established
	☐ No signs of stress	☐ Trees/shrubs (indicate size and locations on a diagram)	
	Remarks: _____		
6.	**Alternative Cover** (e.g., armored rock, concrete)		☐ N/A
	Remarks: _____		
7.	**Bulges**	☐ Location shown on site map	☐ Bulges not evident
	Arial extent: _____		Height: _____
	Remarks: _____		
8.	**Wet Areas/Water Damage**	☐ Wet areas/water damage not evident	
	☐ Wet areas	☐ Location shown on site map	Arial extent: _____
	☐ Ponding	☐ Location shown on site map	Arial extent: _____
	☐ Seeps	☐ Location shown on site map	Arial extent: _____
	☐ Soft subgrade	☐ Location shown on site map	Arial extent: _____
	Remarks: _____		
9.	**Slope Instability**	☐ Slides	☐ Location shown on site map
	☐ No evidence of slope instability		
	Arial extent: _____		
	Remarks: _____		
B. Benches		☐ Applicable	☐ N/A
	(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
1.	**Flows Bypass Bench**	☐ Location shown on site map	☐ N/A or okay
	Remarks: _____		

2.	**Bench Breached**	☐ Location shown on site map	☐ N/A or okay
	Remarks: _____		
3.	**Bench Overtopped**	☐ Location shown on site map	☐ N/A or okay
	Remarks: _____		
C. Letdown Channels		☐ Applicable	☐ N/A
	(Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)		
1.	**Settlement** (Low spots)	☐ Location shown on site map	☐ No evidence of settlement
	Arial extent: _____		Depth: _____
	Remarks: _____		
2.	**Material Degradation**	☐ Location shown on site map	☐ No evidence of degradation
	Material type:_____		Arial extent: _____
	Remarks: _____		
3.	**Erosion**	☐ Location shown on site map	☐ No evidence of erosion
	Arial extent: _____		Depth: _____
	Remarks: _____		
4.	**Undercutting**	☐ Location shown on site map	☐ No evidence of undercutting
	Arial extent: _____		Depth: _____
	Remarks: _____		
5.	**Obstructions**	Type: _____	☐ No obstructions
	☐ Location shown on site map	Arial extent: _____	
	Size: _____		
	Remarks: _____		
6.	**Excessive Vegetative Growth**	Type: _____	
	☐ No evidence of excessive growth		
	☐ Vegetation in channels does not obstruct flow		
	☐ Location shown on site map	Arial extent: _____	
	Remarks: _____		
D. Cover Penetrations		☐ Applicable	☐ N/A
1.	**Gas Vents**	☐ Active	☐ Passive
	☐ Properly secured/locked	☐ Functioning	☐ Routinely sampled	☐ Good condition
	☐ Evidence of leakage at penetration		☐ Needs maintenance	☐ N/A
	Remarks: _____		

2. **Gas Monitoring Probes**

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A

Remarks: _____

3. **Monitoring Wells** (within surface area of landfill)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A

Remarks: _____

4. **Extraction Wells Leachate**

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A

Remarks: _____

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ☐ N/A

Remarks: _____

E. Gas Collection and Treatment ☐ Applicable ☐ N/A

1. **Gas Treatment Facilities**

☐ Flaring ☐ Thermal destruction ☐ Collection for reuse

☐ Good condition ☐ Needs maintenance

Remarks: _____

2. **Gas Collection Wells, Manifolds and Piping**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Gas Monitoring Facilities** (e.g., gas monitoring of adjacent homes or buildings)

☐ Good condition ☐ Needs maintenance ☐ N/A

Remarks: _____

F. Cover Drainage Layer ☐ Applicable ☐ N/A

1. **Outlet Pipes Inspected** ☐ Functioning ☐ N/A

Remarks: _____

2. **Outlet Rock Inspected** ☐ Functioning ☐ N/A

Remarks: _____

G. Detention/Sedimentation Ponds ☐ Applicable ☐ N/A

1. **Siltation** Area extent: _____ Depth: _____ ☐ N/A

☐ Siltation not evident

Remarks: _____

2. **Erosion** Area extent: _____ Depth: _____

☐ Erosion not evident

Remarks: _____

3. **Outlet Works** ☐ Functioning ☐ N/A

Remarks: _____

4. **Dam** ☐ Functioning ☐ N/A

Remarks: _____

H. Retaining Walls ☐ Applicable ☒ N/A

1. **Deformations** ☐ Location shown on site map ☐ Deformation not evident

Horizontal displacement: _____ Vertical displacement: _____

Rotational displacement: _____

Remarks:

2. **Degradation** ☐ Location shown on site map ☒ Degradation not evident

Remarks: _____

I. Perimeter Ditches/Off-Site Discharge ☐ Applicable ☒ N/A

1. **Siltation** ☐ Location shown on site map ☐ Siltation not evident

Area extent: _____ Depth: _____

Remarks: _____

2. **Vegetative Growth** ☐ Location shown on site map ☐ N/A

☐ Vegetation does not impede flow

Area extent: _____ Type: _____

Remarks: _____

3. **Erosion** ☐ Location shown on site map ☐ Erosion not evident

Area extent: _____ Depth: _____

Remarks: _____

4. **Discharge Structure** ☐ Functioning ☐ N/A

Remarks: _____

VIII. VERTICAL BARRIER WALLS ☐ Applicable ☒ N/A

1. **Settlement** ☐ Location shown on site map ☐ Settlement not evident

Area extent: _____ Depth: _____

Remarks: _____

2. **Performance Monitoring** Type of monitoring: ___

☐ Performance not monitored

Frequency: _____ ☐ Evidence of breaching

Head differential: _____

Remarks: _____

IX. GROUND WATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

A. Ground Water Extraction Wells, Pumps and Pipelines ☐ Applicable ☒ N/A

1. **Pumps, Wellhead Plumbing and Electrical**

☐ Good condition ☐ All required wells properly operating ☐ Needs maintenance ☐ N/A

Remarks: _____

2. **Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Spare Parts and Equipment**

☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided

Remarks: _____

B. Surface Water Collection Structures, Pumps and Pipelines ☐ Applicable ☒ N/A

1. **Collection Structures, Pumps and Electrical**

☐ Good condition ☐ Needs maintenance

Remarks: _____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Spare Parts and Equipment**

☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided

Remarks: _____

C. Treatment System ☒ Applicable ☐ N/A

1. **Treatment Train** (check components that apply)

☐ Metals removal ☐ Oil/water separation ☐ Bioremediation

☐ Air stripping ☐ Carbon absorbers

☐ Filters: _____

☒ Additive (e.g., chelation agent, flocculent): zero-valent ion and solid carbon

☐ Others: _____

☒ Good condition ☐ Needs maintenance

☐ Sampling ports properly marked and functional

☐ Sampling/maintenance log displayed and up to date

☐ Equipment properly identified

☐ Quantity of ground water treated annually: _____

☐ Quantity of surface water treated annually: _____

Remarks: _____

2. **Electrical Enclosures and Panels** (properly rated and functional)

☒ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Tanks, Vaults, Storage Vessels**

☐ N/A ☒ Good condition ☐ Proper secondary containment ☐ Needs maintenance

Remarks: Ground water treatment purge water stored in plastic tanks onsite

4. **Discharge Structure and Appurtenances**

☒ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

5. **Treatment Building(s)**

☒ N/A ☐ Good condition (esp. roof and doorways) ☐ Needs repair

☐ Chemicals and equipment properly stored

Remarks: _____

6. **Monitoring Wells** (pump and treatment remedy)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ All required wells located ☐ Needs maintenance ☒ N/A

Remarks: _____

D. Monitoring Data

1. **Monitoring Data**

☒ Is routinely submitted on time ☒ Is of acceptable quality

2. **Monitoring Data Suggests:**

☒ Ground water plume is effectively contained ☒ Contaminant concentrations are declining

E. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)

☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled ☒ Good condition

☐ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: _____

X. OTHER REMEDIES

If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions).

The purpose of the remedy is to protect human health and the environment from exposure to contaminated ground water through direct exposure. The remedy is effectively fulfilling this purpose.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

The PRP monitors ground water quarterly until contaminants are below cleanup levels. According to the 2010 ESD, the PRB was envisioned to be the primary remedial strategy for contaminated ground water when the ROD contingency was originally written, however, the final strategy for the Site will rely most heavily on gains attributable to the planned soil removal.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

No problems identified.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

EPA is currently investigating if additional ground water sources may be present at areas downgradient of the Chevron property boundary.

Site Inspection Team:

James Hou, EPA
Mark Stella, Chevron
Susan Klinzing Tobin, TASK Environmental, Inc.
Allen Just, Arcadis
Treat Suomi, Skeo Solutions
Claire Marcussen, Skeo Solutions

Appendix F: Ground Water Monitoring Network and Plume Geometry

Figure F-1: Monitoring Well Network

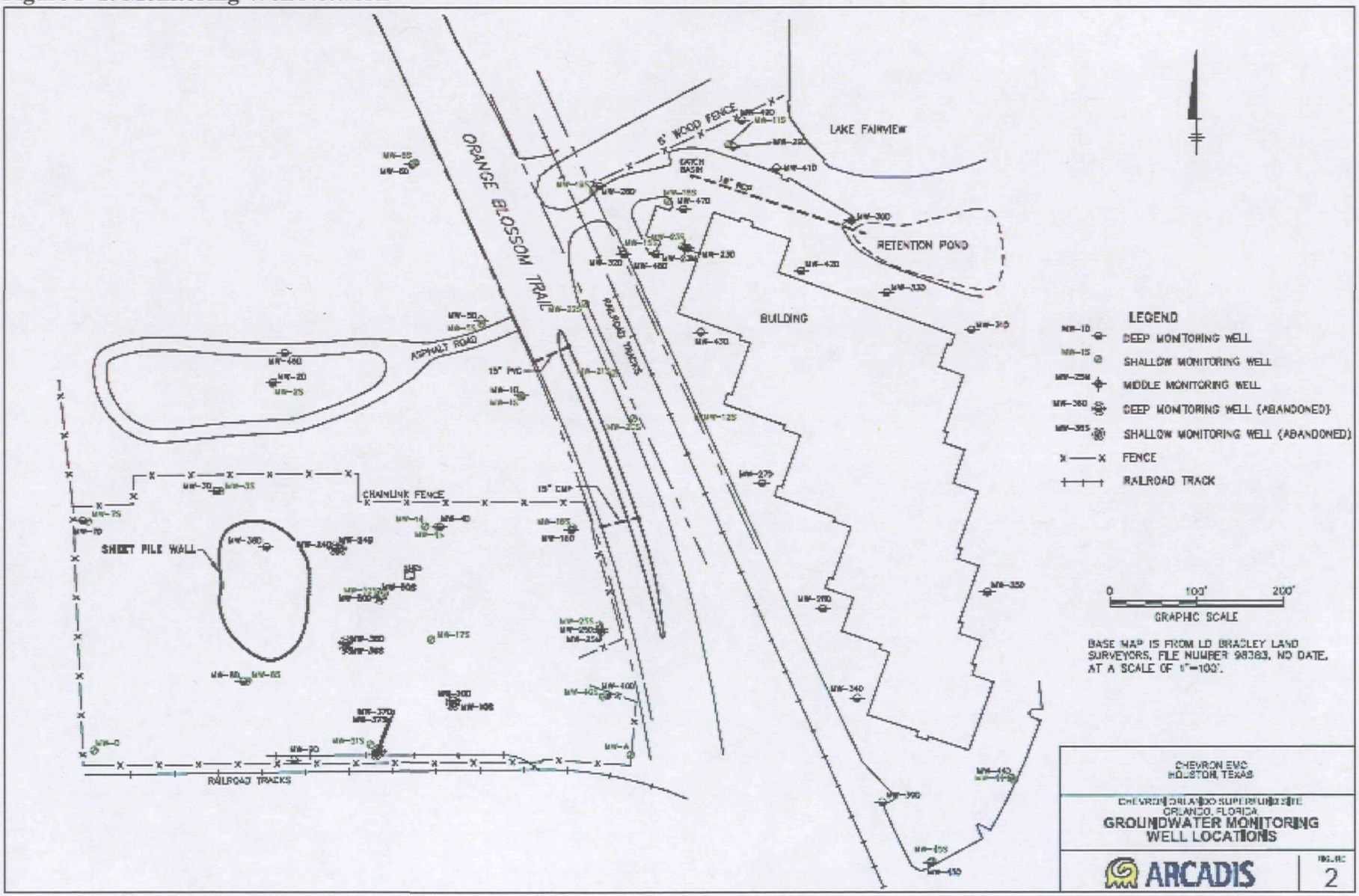


Figure F-2: Locations of PRBs Relative to Monitoring Well Network

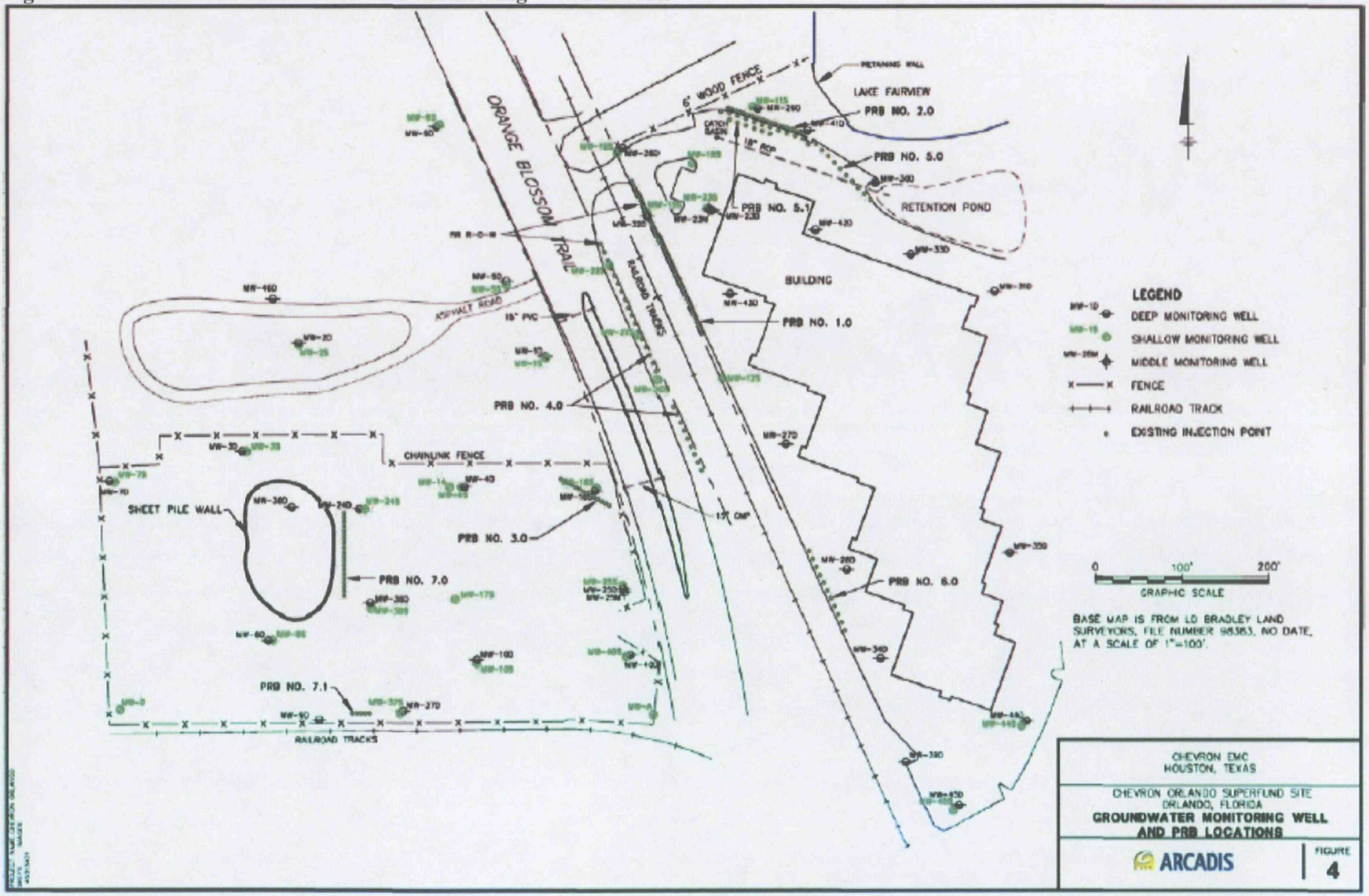


Figure F-3: Locations of Soil Excavations in 2012

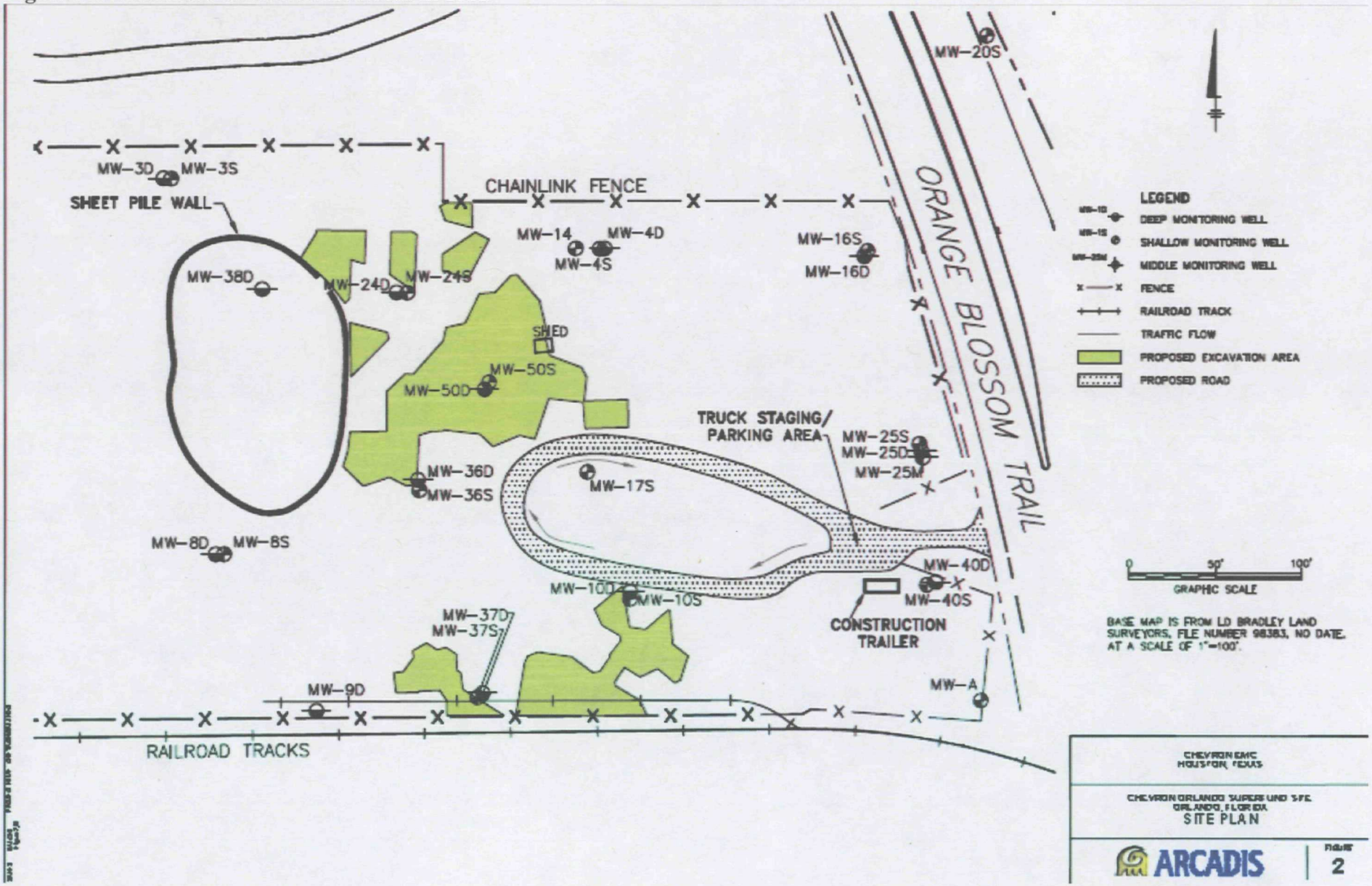


Figure F-4: Total BHCs in Shallow Zone between 2008 and 2011

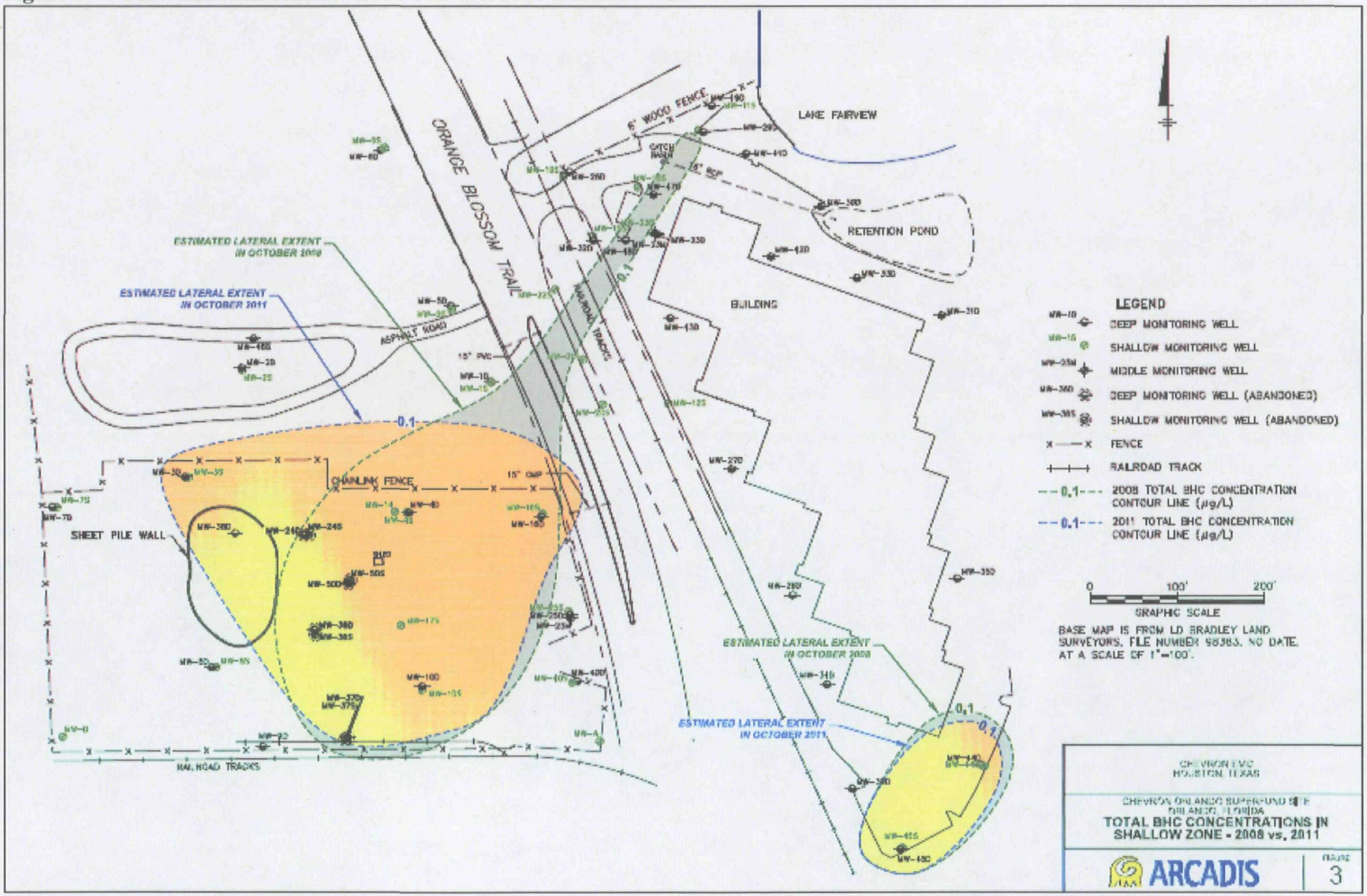
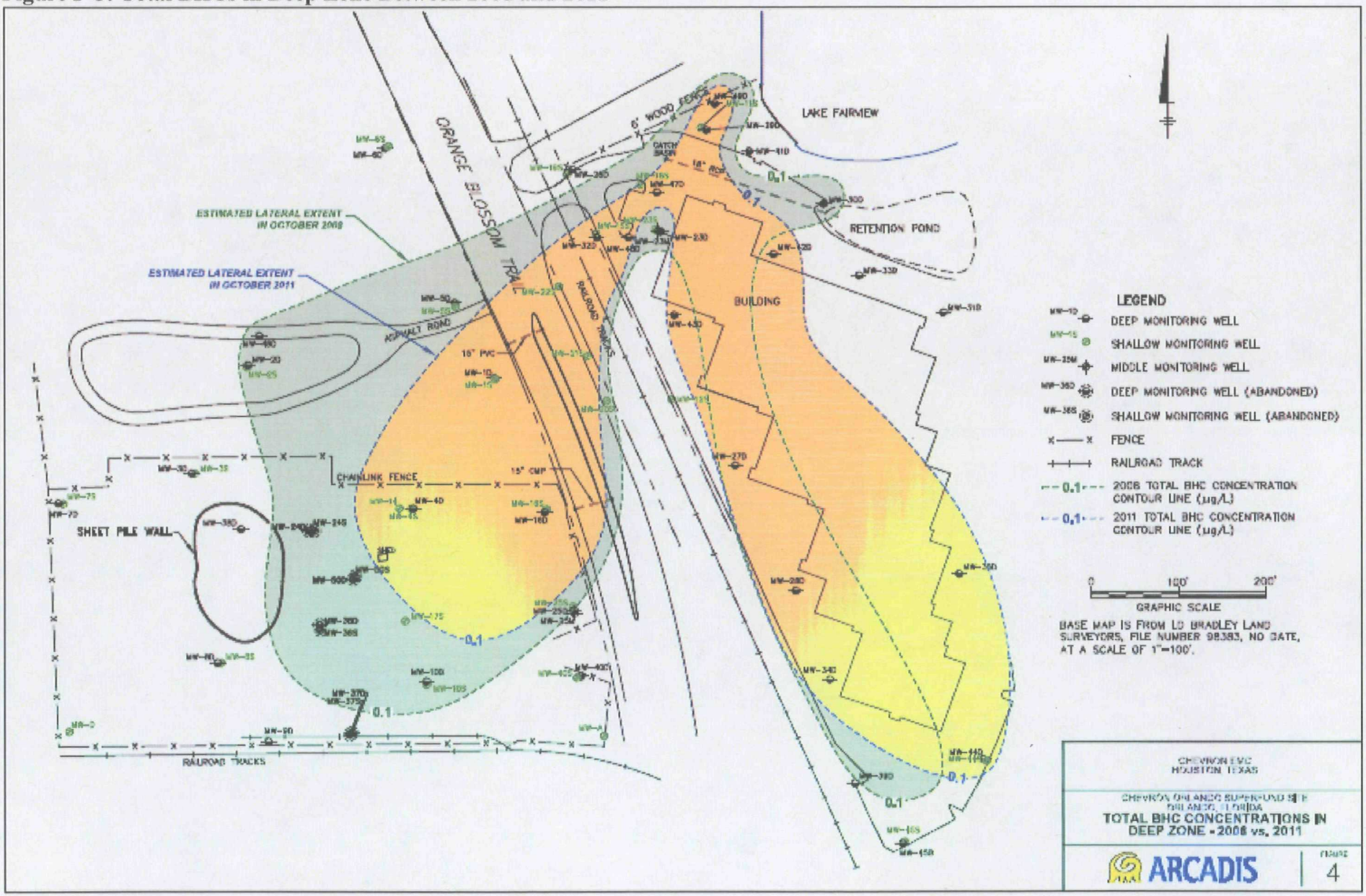


Figure F-5: Total BHCs in Deep Zone Between 2008 and 2011



Appendix G: Photographs from Site Inspection Visit

East entrance to Site, secured by locked fence.

Southern boundary of Site, adjacent to railroad tracks.

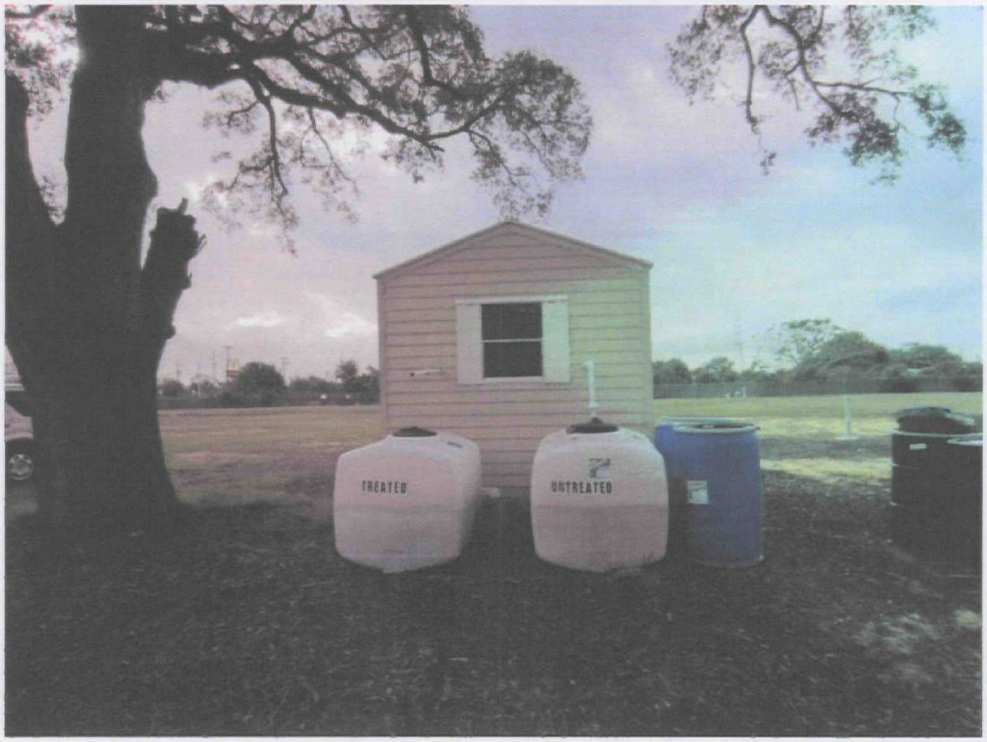
Southern boundary fence showing where trespassing occurs.

Locked monitor well 51S (MW-51S) on south side of fenced area

Northwest corner of Site showing well cluster and retaining wall to prevent off-site overland flow.

Northern boundary with retaining wall; green shed houses a resident.

Broad site view showing vegetative cover where excavations had occurred (looking southwest).



Equipment shed and ground water treatment purge water storage area (looking south).

Northeast corner of Site showing well cluster.

Former Armstrong Trailer Park north of fenced area.

Locked flush mount monitoring well 46D in former Armstrong Trailer Park.

Monitoring Wells MW-11S and MW-29D, Lake Fairview north of the Lake Fairview Commerce Center and mobile home community west of the fence.

Monitoring wells MW-15S and MW-32D at the Fairview Lake Commerce Center Looking northeast.

Appendix H: Summary of Residual COC Concentrations in Site Soil

Table H-1: Summary of Residual On-Site Soil Contamination Results

Location ID:	Depth (Feet)	Date Collected	a-BHC mg/kg	b-BHC mg/kg	d-BHC mg/kg	Lindane mg/kg	Toxaphene mg/kg	Total Chlordane mg/kg
RSL res 10-6 risk			**0.077**	**0.3**	**ND**	**0.52**	**0.4**	**1.6**
RSL HI = 1			**490.000**	**ND**	**24.0**	**21.0**	**ND**	**35.0**
Maximum Detect			**1.40**	**0.8**	**2.2**	**1.6**	**130.0**	**32.0**
Max. Residential Risk (a)			**1.8E-05**	**3.0E-06**	**ND**	**3.1E-06**	**2.9E-04**	**2.0E-05**
Max. Residential HI (a)			**0.003**	**ND**	**0.092**	**0.076**	**ND**	**0.914**
SB-1	2	2/12/2007	0.0029 U	0.0018 U	0.0022 U	0.0006 U	0.23 U	0.0147
	6	2/12/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	10.5	2/12/2007	0.00348 U	0.00216 U	0.00264 U	0.0014 I	0.276 U	ND
SB-2	2	2/5/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	0.0166
	6	2/5/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	9	2/5/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	11	2/5/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	22	2/5/2007	0.00348 U	0.17	0.02	0.00072 U	0.276 U	ND
	27	2/5/2007	0.00406 U	0.00252 U	0.00308 U	0.00084 U	0.322 U	ND
	30	2/5/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
SB-3	2	2/6/2007	0.01972 U	0.01224 U	0.01496 U	0.00408 U	1.564 U	0.189
	5	2/6/2007	0.0029 U	0.0018 U	0.0022 U	0.0006 U	0.23 U	ND
	9	2/6/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	15	2/6/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	27	2/6/2007	0.00406 U	0.00252 U	0.00308 U	0.00084 U	0.322 U	ND
	33	2/6/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
	40	2/6/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
SB-4	2	2/8/2007	0.0029 U	0.067	0.0022 U	0.0011 I	1.8	0.092
	5	2/8/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	8	2/8/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	25	2/8/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	28	2/8/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	35	2/8/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
	37	2/8/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
SB-5	1	2/8/2007	0.1827 K	0.1134 K	0.1386 K	0.0378 K	14.49 K	1.31
	5	2/8/2007	0.00319 U	0.00198 U	0.00242 U	0.00066 U	0.253 U	ND
	11	2/8/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	18	2/8/2007	0.00406 U	0.00252 U	0.00308 U	0.00084 U	0.322 U	ND
	20	2/8/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	24	2/8/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	36	2/8/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
SB-7	3	2/13/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	6	2/13/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	0.0041
	9	2/13/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	1.49
	13	2/13/2007	0.00348 U	0.00216 U	0.0043 I	0.00072 U	0.276 U	0.061
	20	2/13/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	0.025
	25	2/13/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	0.0028
	30	2/13/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
SB-8	1	2/8/2007	0.00348 K	0.0033 I	0.00264 K	0.00072 K	1.2	0.205

	3	2/8/2007	0.011 I	0.016	0.011 K	0.003 K	1.15 K	0.3
	5	2/8/2007	0.25	0.1116 K	1.1	0.0372 K	14.26 K	6.1
	10	2/8/2007	0.014	0.01224 K	0.017	0.00408 K	1.564 K	0.56
	14	2/8/2007	0.00377 U	0.00234 U	0.0035 I	0.00078 U	0.299 U	0.029
	20	2/8/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
	29	2/8/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
SB-10	1	2/8/2007	0.00319 U	0.00198 U	0.00242 U	0.00066 U	0.253 U	0.09
	3	2/8/2007	0.00319 U	0.00198 U	0.00242 U	0.00066 U	0.253 U	0.0024
	5	2/8/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
	7	2/8/2007	0.00377 U	0.013	0.01	0.00078 U	0.3 U	0.18
	15	2/8/2007	0.00406 U	0.00252 U	0.00308 U	0.00084 U	0.322 U	ND
	22	2/8/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
	32	2/8/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
SB-11	1	2/9/2007	0.00319 U	0.00198 U	0.00242 U	0.00066 U	0.253 U	0.021
	5	2/9/2007	0.0029 U	0.012	0.0022 U	0.0073	0.23 U	0.065
	7	2/9/2007	0.00377 U	0.034	0.0047 I	0.002 I	0.299 U	ND
	12	2/9/2007	0.00377 U	0.055	0.015	0.00078 U	0.299 U	ND
	13	2/9/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	23	2/9/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
	27	2/9/2007	0.00348 U	0.00216 U	0.00264 U	0.00072 U	0.276 U	ND
SB-13	4	2/9/2007	0.0638 K	0.0396 K	0.0484 K	0.0132 K	5.06 K	3.1
	6	2/9/2007	0.1798 K	0.1116 K	0.1364 K	0.0372 K	14.26 K	2
	7	2/9/2007	0.0348 K	0.0216 K	0.0264 K	0.0072 K	2.76 K	3.4
	13	2/9/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
	14.2	2/9/2007	0.023	0.0216 K	0.046	0.018	2.76 K	0.5
	22	2/9/2007	0.01856 K	0.01152 K	0.0037 I	0.00384 K	1.472 K	0.6
	27	2/9/2007	0.00377 U	0.00234 U	0.00286 U	0.00078 U	0.299 U	ND
SB-14	0.5	3/31/2008	0.031 K	0.019 K	0.023 K	0.0063 K	2.4 K	4.8
	4.5	3/31/2008	0.0032 U	0.019	0.0024 U	0.00066 U	0.25 U	1.26
	7	3/31/2008	0.0038 U	0.0072 I	0.032	0.00079 U	0.3 U	ND
	10	3/31/2008	0.0037 U	0.0023 U	0.0065 I	0.00076 U	0.29 U	ND
	12	3/31/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
	14.5	3/31/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	ND
SB-15	1	3/31/2008	0.0031 U	0.0019 U	0.0023 U	0.00063 U	0.24 U	0.162
	6	3/31/2008	0.0033 U	0.0021 U	0.0025 U	0.00069 U	0.26 U	0.105
	10.5	3/31/2008	0.0038 U	0.0027 I	0.012	0.00078 U	0.3 U	ND
	12	3/31/2008	0.0036 U	0.0054 I	0.034	0.00075 U	0.29 U	ND
	14	3/31/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
SB-17	2	3/31/2008	0.031 K	0.019 K	0.023 K	0.0064 K	6.5 I	2.08
	4	3/31/2008	0.0031 U	0.03	0.0023 U	0.047	3.8	0.25
	6	3/31/2008	0.0037 U	0.011	0.0028 U	0.0078	2.2	ND
	9	3/31/2008	0.0036 U	0.0055 I	0.0028 U	0.002 I	0.81 I	ND
	11	3/31/2008	0.0035 U	0.019	0.0034 I	0.00073 U	0.37 I	ND
	14	3/31/2008	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	ND
SB-18	8	3/31/2008	0.0036 U	0.061	0.0084 I	0.0029 I	2.9	ND
	12	3/31/2008	0.0037 I	0.047	0.011	0.0062	0.28 U	ND
	15	3/31/2008	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	ND
SB-19	1	4/1/2008	0.014	0.68	0.0024 U	0.00065 U	0.25 U	0.042
	3	4/1/2008	0.0038 U	0.0074 I	0.0029 U	0.0031 I	0.3 U	ND
	6	4/1/2008	0.0038 U	0.028	0.0061 I	0.012	0.3 U	ND
	10	4/1/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
	15	4/1/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
SB-20	1	3/31/2008	0.0031 U	0.0019 U	0.0024 U	0.00065 U	0.25 U	0.55

	5	3/31/2008	0.0031 I	0.0067 I	0.0023 U	0.0096	0.24 U	0.117
	7	3/31/2008	0.062 [0.047]	0.082 [0.066]	0.076 [0.051]	0.044 [0.03]	0.29 U [0.29 U]	ND [ND]
	12	3/31/2008	0.0034 U [0.0035 U]	0.0021 U [0.0021 U]	0.0026 U [0.0026 U]	0.00071 U [0.00071 U]	0.27 U [0.27 U]	ND [ND]
	15	3/31/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
SB-21	1	4/1/2008	0.0031 U	0.0019 U	0.0023 U	0.00063 U	0.24 U	ND
	3	4/1/2008	0.0031 U	0.0019 U	0.0024 U	0.00065 U	0.25 U	ND
	7	4/1/2008	0.0037 U	0.02	0.0077 I	0.003 I	0.29 U	ND
	10	4/1/2008	0.004 U	0.004 I	0.003 U	0.00082 U	0.32 U	ND
	14	4/1/2008	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	ND
SB-22	0.5	4/1/2008	0.0031 U	0.0019 U	0.0023 U	0.00064 U	0.24 U	ND
	3	4/1/2008	0.0031 U	0.0059 I	0.0024 U	0.00065 U	0.25 U	ND
	7	4/1/2008	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
	10	4/1/2008	0.0036 U	0.036	0.0027 U	0.004	0.28 U	ND
	15	4/1/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	ND
SB-23	0.5	4/1/2008	0.0031 U	0.0019 U	0.0023 U	0.00064 U	0.24 U	0.059
	4	4/1/2008	0.0032 U	0.0027 I	0.0024 U	0.00065 U	0.25 U	ND
	6	4/1/2008	0.0036 U	0.036	0.0039 I	0.0044	0.29 U	ND
	8	4/1/2008	0.0038 U	0.0036 I	0.0029 U	0.00078 U	0.3 U	ND
	10	4/1/2008	0.0039 U	0.0024 U	0.0029 U	0.0008 U	0.31 U	ND
	15	4/1/2008	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	ND
SB-24	1	4/1/2008	0.0032 U	0.002 U	0.0024 U	0.00067 U	0.26 U	ND
	3	4/1/2008	0.0032 U	0.002 U	0.0024 U	0.00066 U	0.25 U	0.92
	7	4/1/2008	0.0033 U	0.0021 U	0.0025 U	0.00069 U	0.26 U	ND
	11	4/1/2008	0.0037 U	0.0023 U	0.0058 I	0.00077 U	0.29 U	ND
	15	4/1/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	ND
SB-25	0.5	4/1/2008	0.031 K	0.019 K	0.024 K	0.0065 K	2.5 K	0.29
	3	4/1/2008	0.033 K	0.36	0.025 K	0.0067 K	2.6 K	ND
	7	4/1/2008	0.0033 U	0.002 U	0.0025 U	0.15	0.26 U	0.98
	9	4/1/2008	0.0039 U	0.0024 U	0.0029 U	0.0008 U	0.31 U	ND
	14	4/1/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
SB-26	3	4/1/2008	0.032 K	0.02 K	0.093 I	0.0066 K	2.5 K	2.9
	5	4/1/2008	0.032 K	0.02 K	0.46	0.0067 K	2.6 K	2.6
	8	4/1/2008	0.0032 U	0.002 U	0.018	0.00067 U	0.26 U	0.24
	10	4/1/2008	0.0035 U	0.0069 I	0.0099 I	0.00072 U	0.28 U	ND
	12	4/1/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	ND
SB-27	0.5	4/1/2008	0.0031 U	0.0019 U	0.0024 U	0.00065 U	0.25 U	0.029
	3	4/1/2008	1.4	0.82	0.16	0.96	2.5 K	ND
	8	4/1/2008	0.0036 U	0.0026 I	0.0028 U	0.00075 U	0.29 U	ND
	11	4/1/2008	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	ND
	12	4/1/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	0.34
SB-28	0.5	4/1/2008	0.0031 U	0.0019 U	0.0024 U	0.00065 U	0.25 U	0.098
	3	4/1/2008	0.11 I	0.24	0.025 K	0.0067 K	2.6 K	2.06
	7	4/1/2008	0.035 K	0.021 K	0.026 K	0.34	2.7 K	2.8
	10	4/1/2008	0.0036 U	0.0022 U	0.0028 U	0.086	0.29 U	0.37
	13	4/1/2008	0.0036 U	0.0022 U	0.0028 U	0.013	0.29 U	0.046
SB-29	3	4/1/2008	0.033 K	0.02 K	0.025 K	1.6	2.6 K	13.8
	8	4/1/2008	0.035 K [0.079]	0.021 K [0.0024 U]	0.026 K [0.0029 U]	1.1 [0.56]	2.7 K [0.3 U]	11.7 [3.9]
	10	4/1/2008	0.0037 U	0.0023 U	0.0057 I	0.018	0.29 U	0.161
	12	4/1/2008	0.0034 U	0.0021 U	0.0026 U	0.027	0.27 U	0.088
	15	4/1/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
SB-30	0.5	4/1/2008	0.11 I	0.02 K	0.024 K	0.0066 K	2.5 K	2.6

	3	4/1/2008	0.19 K	0.12 K	0.14 K	0.04 K	15 K	31
	7	4/1/2008	0.0037 U	0.0023 U	0.0028 U	0.043	0.29 U	0.39
	10	4/1/2008	0.0039 U	0.0024 U	0.007 I	0.00081 U	0.31 U	0.045
	13	4/1/2008	0.0035 U [0.0035 U]	0.0022 U [0.0022 U]	0.0027 U [0.0027 U]	0.00072 U [0.00073 U]	0.28 U [0.28 U]	ND [ND]
SB-31	8	4/1/2008	0.013 I	0.0025 U	0.003 U	0.086	0.32 U	0.47
	10	4/1/2008	0.0037 U	0.0023 U	0.0028 U	0.067	0.29 U	0.3
	14	4/1/2008	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	ND
SB-32	0.5	4/2/2008	0.0045 I [0.0033 U]	0.0047 I [0.0025 I]	0.0026 U [0.0025 U]	0.0007 U [0.00067 U]	0.27 U [0.26 U]	0.059 [0.042]
	4	4/2/2008	0.022	0.061	0.0026 U	0.051	0.27 U	1.65
	8	4/2/2008	0.17 K	0.1 K	0.13 K	0.63	14 K	3.2
	12	4/2/2008	0.0074 K	0.0046 K	0.0056 K	0.064	0.58 K	0.36
	15	4/2/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
SB-33	7	4/2/2008	0.035 K	0.022 K	0.027 K	0.083	2.8 K	0.64
	12	4/2/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	ND
	15	4/2/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
SB-34	3	4/2/2008	0.0038 I	0.0019 U	0.0023 U	0.00062 U	0.24 U	0.0184
	5	4/2/2008	0.0032 U	0.002 U	0.0079 I	0.0031	0.25 U	0.079
	7	4/2/2008	0.0035 U	0.0021 U	0.0026 U	0.028	0.27 U	0.047
	11	4/2/2008	0.0036 U	0.0022 U	0.0027 U	0.0032	0.28 U	ND
SB-35	5	4/2/2008	0.0041 I	0.012	0.0039 I	0.0043	0.56 I	0.054
	8	4/2/2008	0.0036 U	0.0069 I	0.02	0.00075 U	0.29 U	ND
	11	4/2/2008	0.0035 U	0.0021 U	0.0036 I	0.017	0.27 U	0.068
	15	4/2/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	0.026
SB-36	0.5	4/2/2008	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.24 U	0.48
	3	4/2/2008	0.0038 U	0.0023 U	0.0029 U	0.00078 U	0.3 U	0.025
	4	4/2/2008	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.24 U	ND
	5	4/2/2008	0.0033 U	0.0021 U	0.0025 U	0.00069 U	0.26 U	ND
	7	4/2/2008	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	0.075
	9	4/2/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	3
	14	4/2/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	ND
SB-37	1	4/2/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.78 I	0.209
	3	4/2/2008	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.24 U	ND
	5	4/2/2008	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	ND
	10	4/2/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
	14	4/2/2008	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	ND
SB-38	0.5	4/2/2008	0.033 K	0.02 K	0.025 K	0.0067 K	3.7 I	2.8
	2	4/2/2008	0.0031 U	0.0019 U	0.0023 U	0.00063 U	0.24 U	ND
	6	4/2/2008	0.0036 U	0.0065 I	0.0067 I	0.00074 U	0.28 U	ND
	9	4/2/2008	0.0035 U	0.0031 I	0.0039 I	0.00073 U	0.28 U	ND
	13	4/2/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
SB-39	0.5	4/2/2008	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	0.074
	5	4/2/2008	0.0033 U	0.002 U	0.0025 U	0.00067 U	0.26 U	0.033
	7	4/2/2008	0.0038 U	0.015	0.0086 I	0.0018 I	0.3 U	ND
	10	4/2/2008	0.0035 U	0.0035 I	0.0057 I	0.00073 U	0.28 U	ND
	14	4/2/2008	0.0036 U	0.0022 U	0.0064 I	0.00075 U	0.29 U	ND
SB-40	0.5	4/2/2008	0.0033 U	0.0021 U	0.0025 U	0.00069 U	0.26 U	0.167
	2	4/2/2008	0.0031 U	0.0044 I	0.0023 U	0.00063 U	0.28 I	0.012
	6	4/2/2008	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	ND
	8	4/2/2008	0.0044 U	0.0068 I	0.011 I	0.00091 U	0.35 U	ND
	14	4/2/2008	0.0036 U	0.0022 U	0.0071 I	0.00074 U	0.28 U	ND
SB-42	0.5	4/2/2008	0.032 K	0.02 K	0.024 K	0.0067 K	12	16.5
	2	4/2/2008	0.0064 K	0.004 K	0.0048 K	0.0013 K	0.51 K	0.53

	5	4/2/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	0.0214
	8	4/2/2008	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	ND
	13	4/2/2008	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	ND
SB-43	7	4/2/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	0.067
	10	4/2/2008	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	0.0186
	13	4/2/2008	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	0.0088
SB-44	7	4/3/2008	0.0033 U	0.002 U	0.028	0.046	0.26 U	0.189
	9	4/3/2008	0.0037 U	0.0023 U	0.006 I	0.00076 U	0.29 U	ND
	11	4/3/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	0.033
	13	4/3/2008	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	ND
SB-45	6	4/3/2008	0.0037 U	0.0023 U	0.04	0.076	0.29 U	0.25
	8	4/3/2008	0.0036 U	0.0022 U	0.01 I	0.037	0.29 U	0.201
	10	4/3/2008	0.034 K	0.021 K	0.026 K	0.11	2.7 K	0.92
	15	4/3/2008	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	ND
SB-46	3	4/3/2008	0.033 K	0.02 K	0.025 K	0.0067 K	2.6 K	26
	5	4/3/2008	0.0036 U	0.0022 U	0.0028 U	0.0024 I	0.29 U	0.06
	8	4/3/2008	0.0036 U	0.0022 U	0.0027 U	0.12	0.28 U	1.93
	11	4/3/2008	0.0035 U	0.0022 U	0.0027 U	0.016	0.28 U	0.357
	14	4/3/2008	0.0038 U	0.0023 U	0.0029 U	0.00078 U	0.3 U	ND
SB-47	6	4/3/2008	0.0038 U	0.0023 U	0.12	0.00078 U	0.3 U	0.91
	8	4/3/2008	0.0038 U	0.0023 U	0.0029 U	0.00078 U	0.3 U	1.02
	17	4/3/2008	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	ND
SB-48	2	4/3/2008	0.031 K	0.019 K	0.024 K	0.0065 K	2.5 K	4.1
	6	4/3/2008	0.0085 I	0.0023 U	0.0028 U	0.00076 U	0.29 U	0.79
	8.5	4/3/2008	0.0037 U	0.0023 U	0.0028 U	0.18	0.29 U	1.07
	12	4/3/2008	0.0036 U [0.0035 U]	0.0022 U [0.0021 U]	0.0027 U [0.0026 U]	0.00074 U [0.00071 U]	0.28 U [0.27 U]	0.74 [1.1]
	14	4/3/2008	0.0034 U [0.0035 U]	0.0021 U [0.0022 U]	0.0026 U [0.0027 U]	0.00071 U [0.00072 U]	0.27 U [0.28 U]	ND [ND]
SB-49	0.5	4/3/2008	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.24 U	ND
	5	4/3/2008	0.003 U [0.003 U]	0.0019 U [0.0019 U]	0.0023 U [0.0023 U]	0.00062 U [0.00062 U]	0.24 U [0.24 U]	0.0138 [ND]
	7	4/3/2008	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	0.32
	9	4/3/2008	0.0035 U [0.0035 U]	0.0022 U [0.0022 U]	0.0027 U [0.0027 U]	0.00072 U [0.00073 U]	0.28 U [0.28 U]	0.061 [0.075]
	14	4/3/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
SB-58	1	3/31/2008	0.0033 U	0.016	0.0025 U	0.00067 U	5.9	0.99
	3.5	3/31/2008	0.0033 U	0.0023 I	0.0025 U	0.00069 U	0.26 U	0.06
	6	3/31/2008	0.01 I	0.027	0.13	0.00079 U	0.3 U	ND
	9	3/31/2008	0.0038 U	0.014	0.025	0.00078 U	0.3 U	ND
	12	3/31/2008	0.017	0.0085 I	0.028	0.076	0.28 U	ND
SB-65	8	10/9/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
	17	10/9/2008	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	ND
	26	10/9/2008	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	ND
	27	10/9/2008	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	ND
	38	10/9/2008	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	ND
	39	10/9/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	ND
	43	10/9/2008	0.004 U	0.0025 U	0.003 U	0.00082 U	0.32 U	ND
	44	10/9/2008	0.004 U	0.0025 U	0.0031 U	0.00083 U	0.32 U	ND
SB-78	3	9/19/2008	0.033 K	0.02 K	0.025 K	0.0067 K	2.6 K	3.8
	6	9/19/2008	0.034 K	0.021 K	0.026 K	0.0071 K	2.7 K	32
	10	9/19/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	1.94
SB-79	3	9/19/2008	0.033 K [0.033 K]	0.021 K [0.021 K]	0.025 K [0.025 K]	0.0069 K [0.0069 K]	2.6 K [2.6 K]	11.7 [14.8]
	5	9/19/2008	0.0037 U [0.004 U]	0.0023 U [0.0025 U]	0.0028 U [0.003 U]	0.00076 U [0.00082 U]	0.29 U [0.32 U]	3.5 [3.6]

SB-80	4	9/19/2008	0.17 K	0.1 K	0.13 K	0.035 K	14 K	5.9
	6	9/19/2008	0.039 K	0.2	0.029 K	0.008 K	3.1 K	2.2
SB-84	3	9/18/2008	0.16 K	0.1 K	0.12 K	0.034 K	13 K	11
	8	9/18/2008	0.045 I	0.023 K	0.029 K	0.0078 K	3 K	5.7
	12	9/18/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	0.127
SB-85	3	9/18/2008	0.0035 U	0.066	0.0026 U	0.00071 U	0.27 U	0.0162
SB-87	6	9/18/2008	0.0036 U	0.12	0.056	0.00075 U	0.29 U	ND
	14	9/18/2008	0.0035 U	0.0056 I	0.0027 U	0.00073 U	0.28 U	ND
SB-88	0.5	9/19/2008	0.0031 U	0.0019 U	0.0023 U	0.00063 U	0.24 U	0.277
	3	9/19/2008	0.032 K	0.02 K	0.024 K	0.0067 K	2.6 K	0.9
	4.5	9/19/2008	0.0035 U	0.0022 U	0.0048 I	0.00073 U	0.28 U	0.096
	6	9/19/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	1.6	ND
SB-89	4	9/22/2008	0.0034 U	0.0029 I	0.0026 U	0.00071 U	0.92 I	0.192
SB-90	0.5	9/22/2008	0.0032 U	0.002 U	0.0024 U	0.00065 U	0.25 U	0.0055
	1.5	9/22/2008	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.24 U	0.042
	3	9/22/2008	0.0032 U	0.002 U	0.0024 U	0.00067 U	0.26 U	0.079
	4.5	9/22/2008	0.0033 U	0.002 U	0.0025 U	0.00067 U	0.26 U	0.0202
SB-91	1	9/18/2008	0.0034 U	0.0021 U	0.0026 U	0.0007 U	0.27 U	ND
	3	9/18/2008	0.035 K	0.021 K	0.026 K	0.0071 K	2.7 K	2.29
	4	9/18/2008	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	1.34
	8	9/18/2008	0.0038 U	0.37	0.0029 U	0.00079 U	0.3 U	3.3
	12	9/18/2008	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	0.76
	13	9/18/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	0.047
SB-92	1	9/18/2008	0.034 K	0.021 K	0.026 K	0.007 K	2.7 K	2.2
	2.5	9/18/2008	0.0033 U	0.0074 I	0.0025 U	0.00067 U	0.26 U	0.072
	7	9/18/2008	0.0037 I	0.02	0.012	0.067	0.29 U	0.24
	10	9/18/2008	0.0038 U [0.0038 U]	0.0023 U [0.0024 U]	0.015 [0.017]	0.00078 U [0.00079 U]	0.3 U [0.3 U]	0.52 [0.58]
	11	9/18/2008	0.0036 U	0.0022 U	0.025	0.00074 U	0.28 U	0.51
	13	9/18/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	0.034
SB-93	0.5	9/19/2008	0.032 K	0.02 K	0.024 K	0.0067 K	2.6 K	2.6
	3.5	9/19/2008	0.032 K	0.02 K	0.024 K	0.0066 K	2.5 K	13.7
	5	9/19/2008	0.0033 U	0.002 U	0.0025 U	0.00068 U	0.78 I	0.35
	8	9/19/2008	0.0039 U	0.0024 U	0.003 U	0.00081 U	0.31 U	0.162
SB-94	1	9/17/2008	0.0034 U	0.0021 U	0.0026 U	0.0007 U	0.27 U	0.0028
	3	9/17/2008	0.024	0.074	0.0026 U	0.0007 U	0.27 U	1.76
	6	9/17/2008	0.0037 U [0.0039 U]	0.0023 U [0.0024 U]	0.16 [0.18]	0.00077 U [0.0008 U]	0.29 U [0.31 U]	1.03 [1.31]
	11	9/17/2008	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	1.55
	12	9/17/2008	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
	13.5	9/17/2008	0.0038 U	0.067	0.0029 U	0.00078 U	0.3 U	ND
	15	9/17/2008	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	0.195
SB-95	7	9/18/2008	0.044	0.015	0.013	0.00077 U	0.29 U	0.03
	12	9/18/2008	0.025	0.0022 U	0.011	0.00075 U	0.29 U	0.3
SB-96	5	9/18/2008	0.0031 U	0.0019 U	0.0024 U	0.00065 U	0.25 U	0.0098
	6	9/18/2008	0.0039 U	0.052	0.003 U	0.004	0.31 U	ND
	10	9/18/2008	0.0037 U	0.0033 I	0.0081 I	0.00076 U	0.29 U	0.046
	14	9/18/2008	0.0035 U [0.0035 U]	0.0022 U [0.0025 I]	0.0068 I [0.0073 I]	0.00073 U [0.00073 U]	0.28 U [0.28 U]	0.0191 [0.0205]
SB-98	7	9/18/2008	0.072 I	0.021 K	0.77	0.0071 K	2.7 K	12.1
	11	9/18/2008	0.0035 U [0.0035 U]	0.0022 U [0.0022 U]	0.0027 U [0.0027 U]	0.00073 U [0.00073 U]	0.28 U [0.28 U]	0.45 [0.26]
	14	9/18/2008	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	0.09
SB-99	0.5	9/18/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	0.067
	2	9/18/2008	0.0032 U	0.043 I	0.031 I	0.00066 U	0.25 U	0.39

	5	9/18/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
	6.5	9/18/2008	0.0039 U	0.0024 U	0.0029 U	0.0008 U	0.31 U	ND
	11	9/18/2008	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	ND
	12	9/18/2008	0.0035 U	0.0022 U	0.011	0.00073 U	0.28 U	ND
	14	9/18/2008	0.0035 U	0.0022 U	0.0063 I	0.00072 U	0.28 U	0.029
SB-100	1.5	9/17/2008	0.0033 U	0.002 U	0.0025 U	0.00068 U	0.26 U	ND
	4	9/17/2008	0.0033 U [0.0033 U]	0.0021 U [0.0021 U]	0.0025 U [0.0025 U]	0.00069 U [0.00069 U]	0.26 U [0.26 U]	ND [ND]
	7	9/17/2008	0.0034 U	0.0021 U	0.0026 U	0.0007 U	0.27 U	0.041
	9	9/17/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	ND
	11	9/17/2008	0.004 U	0.0025 U	0.003 U	0.00082 U	0.32 U	0.57
	14	9/17/2008	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	0.201
SB-101	2	9/17/2008	0.0032 U	0.15	0.0024 U	0.00065 U	2.3	ND
	2.5	9/17/2008	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	0.0076
	5	9/17/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
	7	9/17/2008	0.004 U	0.0026 I	0.003 U	0.00082 U	0.32 U	ND
	10	9/17/2008	0.0038 U	0.0026 I	0.0072 I	0.00079 U	0.3 U	ND
	14	9/17/2008	0.0039 U	0.0024 U	0.0029 U	0.0008 U	0.31 U	ND
SB-102	1	9/17/2008	0.0034 U	0.0021 U	0.0026 U	0.0007 U	0.27 U	0.54
	3	9/17/2008	0.032 K	0.24	0.098	0.0066 K	2.5 K	4.2
	5	9/17/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	0.051
	7.5	9/17/2008	0.0037 U [0.0036 U]	0.0032 I [0.0022 U]	0.0028 U [0.0027 U]	0.00076 U [0.00074 U]	0.29 U [0.28 U]	0.0154 [0.0131]
	11	9/17/2008	0.0083 I	0.0047 I	0.0054 I	0.00078 U	0.3 U	ND
	13.5	9/17/2008	0.0035 U	0.0028 I	0.0035 I	0.00072 U	0.28 U	0.0163
SB-103	0.5	9/17/2008	0.0032 U	0.002 U	0.0024 U	0.00067 U	0.26 U	ND
	1	9/17/2008	0.0033 U	0.1	0.0025 U	0.00068 U	0.26 U	ND
	5	9/17/2008	0.0034 U	0.0021 U	0.0026 U	0.0025 I	0.27 U	ND
	7	9/17/2008	0.0036 U	0.0045 I	0.0028 U	0.0022 I	0.29 U	0.039
	10	9/17/2008	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	ND
	14	9/17/2008	0.0038 U	0.0023 U	0.0029 U	0.00078 U	0.3 U	ND
SB-104	1	9/17/2008	0.0032 U	0.002 U	0.0024 U	0.00065 U	0.25 U	0.29
	2	9/17/2008	0.0032 U	0.0068 I	0.0024 U	0.00067 U	0.26 U	0.058
	3	9/17/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	0.035
	7	9/17/2008	0.0036 U	0.0022 U	0.019	0.0059	0.29 U	0.75
	10	9/17/2008	0.0037 U	0.0023 U	0.027	0.00076 U	0.29 U	0.126
	14	9/17/2008	0.0037 U [0.0036 U]	0.0023 U [0.0022 U]	0.0028 U [0.0028 U]	0.00076 U [0.00075 U]	0.29 U [0.29 U]	ND [ND]
SB-106	0.5	9/19/2008	0.2 K	0.12 K	0.15 K	0.041 K	16 K	3.6
	2.5	9/19/2008	0.0033 U	0.053 I	0.0025 U	0.00068 U	0.26 U	0.131
	4	9/19/2008	0.0045 I	0.0023 U	0.0029 U	0.00078 U	0.3 U	0.026
	6	9/19/2008	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	ND
	8	9/19/2008	0.0051 I	0.018	0.0054 I	0.0023 I	0.32 U	ND
	14	9/19/2008	0.0035 U	0.003 I	0.0098 I	0.00071 U	0.27 U	ND
SB-108	3	9/19/2008	0.024	0.0021 U	0.14	0.00069 U	0.26 U	6.6
	4	9/19/2008	0.12	0.0024 U	2.2	0.00079 U	0.3 U	24
	8	9/19/2008	0.0037 U	0.0099	0.0028 U	0.00076 U	0.29 U	0.176
	14	9/19/2008	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	0.0151
SB-109	0.5	9/19/2008	0.0033 U	0.002 U	0.0025 U	0.00068 U	0.26 U	0.045
	3	9/19/2008	0.032 K	0.02 K	0.024 K	0.0067 K	2.6 K	2.3
	5	9/19/2008	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	0.32
	8.5	9/19/2008	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	0.116
	10	9/19/2008	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	0.0177
	14.5	9/19/2008	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	ND

SB-126	1	1/8/2009	0.0031 U	0.0019 U	0.0024 U	0.00065 U	0.25 U	0.79
	3	1/8/2009	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.24 U	0.0129
SB-127	1	1/8/2009	0.0076 I	0.02	0.023	0.0062	25	7.1
	3	1/8/2009	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.24 U	0.0185
SB-128	1	1/8/2009	0.0032 U	0.002 U	0.0024 U	0.00065 U	0.25 U	4.6
	3	1/8/2009	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.24 U	0.111
SB-129	1	1/8/2009	0.0032 U	0.002 U	0.0024 U	0.00065 U	0.25 U	1.73
	3	1/8/2009	0.0031 U	0.0019 U	0.0023 U	0.00063 U	18	3.6
SB-130	1	1/8/2009	0.004 U	0.025	0.003 U	0.048	0.32 U	11.6
	3	1/8/2009	0.0031 U	0.0019 U	0.0023 U	0.00063 U	0.24 U	4.9
SB-131	1	1/8/2009	0.0031 U	0.0019 U	0.0023 U	0.00064 U	0.24 U	12.4
	3	1/8/2009	0.0031 U	0.0019 U	0.0023 U	0.00064 U	0.24 U	0.88
SB-132	3	1/8/2009	0.0032 I	0.018	0.0029 I	0.00063 U	0.24 U	0.027
SB-133	3	1/8/2009	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.24 U	0.38
SB-134	3	1/8/2009	0.003 U	0.0019 I	0.0023 U	0.00062 U	0.24 U	0.0141
SB-135	3	1/8/2009	0.031 K	0.019 K	0.023 K	0.0064 K	2.4 K	1.1
SB-136	1	1/8/2009	0.16 K	0.4	0.12 K	0.032 K	19 I	8.7
	3	1/8/2009	0.003 U	0.006 I	0.0023 U	0.00062 U	0.59 I	0.136
SB-138	1	1/8/2009	0.031 K	0.5	0.023 K	0.07	2.4 K	4.2
	3	1/8/2009	0.031 K	0.2	0.023 K	0.015 I	2.4 K	0.31
	5	1/8/2009	0.0031 U	0.019	0.0023 U	0.0024 I	0.64 I	ND
SB-139	1	1/8/2009	0.031 K	0.019 K	0.023 K	0.0063 K	2.4 K	0.57
	3	1/8/2009	0.015 K	0.13 I	0.012 K	0.0032 K	1.2 K	0.93
	5	1/8/2009	0.0033 U	0.002 U	0.0025 U	0.00068 U	0.26 U	0.047
SB-140	1	1/8/2009	0.031 K	0.019 K	0.023 K	0.0063 K	2.4 K	0.45
	3	1/8/2009	0.031 K	0.041 I	0.023 K	0.0064 K	2.4 K	0.59
	5	1/8/2009	0.0032 U	0.002 U	0.0024 U	0.00066 U	0.25 U	0.038
SB-141	1	1/8/2009	0.016 K	0.021 I	0.012 K	0.0032 K	1.2 K	0.29
	3	1/8/2009	0.0039 U	0.0024 U	0.0029 U	0.0008 U	0.31 U	0.042
SB-142	1	1/8/2009	0.031 K	0.019 K	0.023 K	0.0063 K	3.2 I	0.19
	3	1/8/2009	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.24 U	0.03
SB-143	1	1/8/2009	0.15 K	0.19 I	0.12 K	0.031 K	12 K	1.11
	3	1/8/2009	0.003 U	0.028	0.0023 U	0.00062 U	0.24 U	0.038
SB-152	6	4/15/2009	0.0033 U	0.075	0.0066 I	0.015	0.67 I	0.23
	7	4/15/2009	0.0037 U	0.083	0.0095 I	0.014	0.29 U	0.0103
	8	4/15/2009	0.0063 I	0.089	0.011 I	0.024	0.3 U	ND
	9	4/15/2009	0.0039 U	0.028	0.008 I	0.00081 U	0.31 U	ND
	10	4/15/2009	0.0038 U	0.0042 I	0.0084 I	0.00078 U	0.3 U	ND
SB-153	6	4/30/2009	0.0064 I	0.016	0.031	0.00067 U	0.26 U	0.077
	7	4/30/2009	0.023	0.024	0.049	0.00075 U	0.29 U	0.149
	8	4/30/2009	0.0035 U	0.0022 U	0.018	0.00072 U	0.28 U	ND
SB-157	1	5/6/2009	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.24 U	0.171
	2	5/6/2009	0.03 U	0.018 U	0.022 U	0.0061 U	3.1 I	0.58
	3	5/6/2009	0.031 U	0.41	0.055 I	0.076	13	4.3
SB-158	3	5/6/2009	0.031 U	0.45	0.17	0.11	130	9.2
	4	5/6/2009	0.0068 I	0.12	0.038	0.044	8.8	0.38
	5	5/6/2009	0.003 U	0.029	0.052	0.0053	0.6 I	0.05
SB-159	6	5/6/2009	0.064 U	0.04 U	0.048 U	0.013 U	5 U	2.8
	6.5	5/6/2009	0.066 U	0.042 U	0.05 U	0.014 U	5.2 U	5.5
SB-160	3	5/6/2009	0.0034 U	0.0021 U	0.0026 U	0.0007 U	0.27 U	1.48
	4	5/6/2009	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	1.27
	6.5	5/6/2009	0.07 U	0.044 U	0.054 U	0.014 U	5.6 U	23
SB-161	3	5/6/2009	0.019	0.0021 U	0.0026 U	0.0007 U	0.27 U	1.67

	5	5/6/2009	0.16 U	0.1 U	0.12 U	0.032 U	12 U	6.1
	6.5	5/6/2009	0.07 U	0.042 U	0.052 U	0.014 U	5.4 U	17.8
SB-178	2	9/3/2009	0.0041 U	0.0025 U	0.0031 U	0.00085 U	0.32 U	0.0117
	3	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00066 U	0.25 U	ND
	4	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00067 U	0.26 U	ND
	5	9/3/2009	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
	6	9/3/2009	0.0037 U [0.0036 U]	0.0023 U [0.0022 U]	0.0028 U [0.0028 U]	0.00076 U [0.00075 U]	0.29 U [0.29 U]	ND [ND]
	7	9/3/2009	0.0038 U	0.0024 U	0.0029 U	0.00079 U	0.3 U	ND
SB-179	2	9/3/2009	0.0034 U	0.0021 U	0.0026 U	0.0007 U	0.27 U	0.0111
	3	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00066 U	0.25 U	ND
	4	9/3/2009	0.0033 U [0.0033 U]	0.002 U [0.002 U]	0.0025 U [0.0025 U]	0.00067 U [0.00068 U]	0.26 U [0.26 U]	ND [ND]
	5	9/3/2009	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
	6	9/3/2009	0.0039 U	0.0024 U	0.0029 U	0.0008 U	0.31 U	ND
	7	9/3/2009	0.0038 U	0.0024 U	0.0029 U	0.00079 U	0.3 U	ND
SB-180	2	9/3/2009	0.0031 U	0.0019 U	0.0023 U	0.00063 U	0.24 U	0.023
	3	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00067 U	0.26 U	ND
	4	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00066 U	0.25 U	ND
	5	9/3/2009	0.0034 U [0.0034 U]	0.0021 U [0.0021 U]	0.0026 U [0.0026 U]	0.0007 U [0.0007 U]	0.27 U [0.27 U]	ND [ND]
	6	9/3/2009	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
	7	9/3/2009	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	ND
SB-181	2	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00066 U	0.25 U	ND
	3	9/3/2009	0.0033 U	0.002 U	0.0025 U	0.00068 U	0.26 U	0.0065
	4	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00067 U	0.26 U	ND
	5	9/3/2009	0.0033 U	0.002 U	0.0025 U	0.00068 U	0.26 U	ND
	6	9/3/2009	0.0033 U	0.002 U	0.0025 U	0.00068 U	0.26 U	ND
	7	9/3/2009	0.0039 U	0.0024 U	0.0029 U	0.0008 U	0.31 U	ND
SB-182	2	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00067 U	0.26 U	0.0102
	3	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00066 U	0.25 U	ND
	4	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00066 U	0.25 U	ND
	5	9/3/2009	0.0034 U	0.0021 U	0.0026 U	0.0007 U	0.27 U	ND
	6	9/3/2009	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
	7	9/3/2009	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	ND
SB-183	2	9/4/2009	0.0033 U	0.002 U	0.0025 U	0.00068 U	0.26 U	0.011
	3	9/4/2009	0.0033 U	0.002 U	0.0025 U	0.00067 U	0.26 U	ND
	4	9/4/2009	0.0032 U	0.002 U	0.0024 U	0.00067 U	0.26 U	ND
	5	9/4/2009	0.0033 U	0.0021 U	0.0025 U	0.00069 U	0.26 U	ND
	6	9/4/2009	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	ND
	7	9/4/2009	0.0039 U	0.0024 U	0.003 U	0.00081 U	0.31 U	ND
SB-184	2	9/4/2009	0.0033 U	0.0021 U	0.0025 U	0.00069 U	0.32 I	ND
	3	9/4/2009	0.0032 U	0.002 U	0.0024 U	0.00067 U	0.26 U	ND
	4	9/4/2009	0.0033 U	0.002 U	0.0025 U	0.00068 U	0.26 U	ND
	5	9/4/2009	0.0034 U	0.0021 U	0.0026 U	0.0007 U	0.27 U	0.0037
	6	9/4/2009	0.0038 U	0.0024 U	0.0068 I	0.00079 U	0.3 U	ND
	7	9/4/2009	0.0041 U	0.0025 U	0.0031 U	0.00085 U	0.32 U	ND
SB-185	2	9/3/2009	0.0032 U	0.036	0.0024 U	0.00066 U	0.25 U	0.092
	3	9/3/2009	0.0033 U	0.0021 U	0.0025 U	0.00069 U	0.26 U	0.0268
	4	9/3/2009	0.0033 U	0.002 U	0.0025 U	0.00067 U	0.26 U	ND
	5	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00066 U	0.25 U	0.0062
	6	9/3/2009	0.0038 U	0.0024 U	0.0029 U	0.00079 U	0.3 U	0.0243
	7	9/3/2009	0.0038 U	0.0024 U	0.0029 U	0.00079 U	0.3 U	ND
SB-190	2	9/3/2009	0.0032 U	0.032	0.0024 U	0.00066 U	2.9	0.89

	3	9/3/2009	0.0073 I	0.051	0.0024 U	0.00065 U	0.25 U	0.014
	4	9/3/2009	0.0031 U	0.0093	0.0024 U	0.0041	0.25 U	0.034
	5	9/3/2009	0.0032 U [0.0033 U]	0.002 U [0.002 U]	0.0024 U [0.0025 U]	0.00067 U [0.00067 U]	0.26 U [0.26 U]	ND [ND]
	6	9/3/2009	0.0034 U	0.012	0.0058 I	0.00071 U	0.27 U	ND
	7	9/3/2009	0.023	0.074	0.013	0.028	0.29 U	ND
SB-191	6	9/3/2009	0.0034 U	0.031	0.0058 I	0.0007 U	0.27 U	ND
	7	9/3/2009	0.0035 U	0.026	0.0027 U	0.00072 U	0.28 U	ND
SB-192	6	9/3/2009	0.0034 U	0.0021 U	0.0026 U	0.0007 U	0.27 U	0.041
	7	9/3/2009	0.0035 U	0.011	0.0074 I	0.00071 U	0.27 U	0.068
SB-193	6	9/3/2009	0.0032 U	0.002 U	0.0024 U	0.00067 U	0.26 U	ND
	7	9/3/2009	0.0034 U	0.0021 U	0.015	0.0007 U	0.27 U	ND
SB-194	2	9/3/2009	0.0031 U	0.0019 U	0.0023 U	0.00064 U	0.43 I	0.093
	3	9/3/2009	0.0038 I	0.052	0.0024 U	0.0068	0.25 U	0.152
	4	9/3/2009	0.0036 U	0.024	0.0028 U	0.0024 I	0.29 U	ND
	5	9/3/2009	0.0033 U	0.016	0.0025 U	0.00067 U	0.26 U	ND
	6	9/3/2009	0.0034 U [0.0033 U]	0.027 [0.039]	0.0026 U [0.0025 U]	0.0017 I [0.0028 I]	0.27 U [0.26 U]	ND [ND]
	7	9/3/2009	0.0035 U	0.062	0.01 I	0.002 I	0.28 U	ND
SB-195	2	10/2/2009	0.0032 U	0.002 U	0.0024 U	0.00067 U	0.26 U	0.033
	3	10/2/2009	0.0031 U	0.0019 U	0.0024 U	0.00065 U	0.25 U	0.0067
	4	10/2/2009	0.0031 U	0.0022 I	0.0024 U	0.00065 U	0.25 U	0.0032
	5	10/2/2009	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	0.0029
	6	10/2/2009	0.0036 U	0.0027 I	0.0027 U	0.00074 U	0.28 U	0.021
	7	10/2/2009	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	0.0193
SB-196	2	10/2/2009	0.0032 U	0.072 I	0.0024 U	0.00066 U	0.25 U	0.121
	3	10/2/2009	0.0031 U	0.0045 I	0.0024 U	0.00065 U	0.25 U	0.033
	4	10/2/2009	0.0031 U	0.004 I	0.0024 U	0.00065 U	0.25 U	0.054
	5	10/2/2009	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	0.43
	6	10/2/2009	0.0036 U	0.0078 I	0.0027 U	0.00074 U	0.28 U	0.066
	7	10/2/2009	0.0034 U	0.0074 I	0.0026 U	0.00071 U	0.27 U	0.096
SB-198	2	10/2/2009	0.0033 U	0.002 U	0.0025 U	0.00068 U	3	2.33
	3	10/2/2009	0.032 U	0.02 U	0.024 U	0.0065 U	2.5 U	0.43
	4	10/2/2009	0.0031 U	0.0019 U	0.0023 U	0.00064 U	0.24 U	0.093
	5	10/2/2009	0.0034 U	0.0076 I	0.0062 I	0.00071 U	0.27 U	0.015
	6	10/2/2009	0.0056 I	0.012	0.0079 I	0.00073 U	0.28 U	0.31
	7	10/2/2009	0.0034 U	0.013	0.014	0.0007 U	0.27 U	0.41
SB-200	2	10/2/2009	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.75 I	0.28
	3	10/2/2009	0.0032 U	0.002 U	0.0024 U	0.00065 U	0.25 U	0.64
	4	10/2/2009	0.0032 U	0.002 U	0.0024 U	0.00065 U	0.25 U	0.109
	5	10/2/2009	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	0.124
	6	10/2/2009	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.5 I	0.25
	7	10/2/2009	0.0034 U	0.0021 U	0.0026 U	0.00071 U	0.36 I	0.168
SB-201	2	10/2/2009	0.034 U	0.021 U	0.026 U	0.0071 U	2.7 U	2.7
	3	10/2/2009	0.033 U	0.02 U	0.025 U	0.0068 U	2.6 U	9.1
	4	10/2/2009	0.033 U	0.02 U	0.025 U	0.0068 U	2.6 U	1.95
	5	10/2/2009	0.07 U	0.042 U	0.052 U	0.014 U	5.4 U	7.5
	6	10/2/2009	0.095 I	0.046 U	0.056 U	0.41	5.8 U	1.58
	7	10/2/2009	0.073 U [0.0037 U]	0.046 U [0.0023 U]	0.056 U [0.0028 U]	0.015 U [0.00076 U]	5.8 U [0.29 U]	1.69 [1.2]
SB-202	2	10/1/2009	0.0032 U	0.032	0.0024 U	0.00065 U	0.25 U	0.138
	3	10/1/2009	0.038	0.037	0.0055 I	0.044	0.25 U	0.0179
	4	10/1/2009	0.0031 U [0.0031 U]	0.01 [0.011]	0.0023 U [0.0038 I]	0.0033 [0.0036]	0.24 U [0.24 U]	0.0208 [0.0184]
	5	10/1/2009	0.0031 U	0.0059 I	0.0024 U	0.0013 I	0.25 U	0.0215

	6	10/1/2009	0.0056 I	0.022	0.0043 I	0.011	0.27 U	ND
	7	10/1/2009	0.0037 I	0.021	0.0039 I	0.0055	0.28 U	0.0149
SB-203	6	10/1/2009	0.0035 U	0.051	0.0026 U	0.00071 U	0.27 U	ND
	7	10/1/2009	0.0035 U	0.065	0.0027 U	0.00073 U	0.28 U	ND
SB-206	2	10/9/2009	0.032 U	0.02 U	0.024 U	0.0066 U	2.5 U	2.4
	3	10/9/2009	0.031 U	0.019 U	0.023 U	0.0064 U	2.4 U	0.61
	4	10/9/2009	0.031 U	0.019 U	0.023 U	0.0064 U	2.4 U	1.16
	5	10/9/2009	0.0033 U [0.0034 U]	0.002 U [0.0021 U]	0.0025 U [0.0026 U]	0.00068 U [0.0007 U]	0.26 U [0.27 U]	1.52 [2.1]
	6	10/9/2009	0.027	0.0021 U	0.0025 U	0.00069 U	0.26 U	1.78
	7	10/9/2009	0.015	0.0021 U	0.0025 U	0.00069 U	0.26 U	1.15
SB-207	2	10/9/2009	0.003 U	0.0019 U	0.009 I	0.00062 U	0.24 U	0.53
	3	10/9/2009	0.0031 U	0.0019 U	0.0023 U	0.00064 U	0.24 U	1.8
	4	10/9/2009	0.0031 U	0.0019 U	0.0024 U	0.00065 U	0.25 U	0.57
	5	10/9/2009	0.0033 U	0.002 U	0.0025 U	0.00068 U	0.26 U	0.98
SB-208	2	10/8/2009	0.031 U	0.019 U	0.023 U	0.0063 U	2.4 U	0.96
	3	10/8/2009	0.0032 U [0.0032 U]	0.002 U [0.002 U]	0.0024 U [0.0024 U]	0.00065 U [0.00065 U]	0.25 U [0.25 U]	0.048 [0.073]
	4	10/8/2009	0.0031 U	0.0019 U	0.0023 U	0.00064 U	0.24 U	0.0155
	5	10/8/2009	0.0033 U	0.0021 U	0.0025 U	0.00069 U	0.26 U	0.146
	6	10/8/2009	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	0.099
	7	10/8/2009	0.0038 U	0.0023 U	0.0029 U	0.00078 U	0.3 U	0.038
SB-209	2	10/8/2009	0.0076 I [0.0067 I]	0.018 [0.012]	0.0025 U [0.0025 U]	0.00069 U [0.00069 U]	0.26 U [0.26 U]	2.7 [2.6]
	3	10/8/2009	0.0032 U	0.002 U	0.0024 U	0.00066 U	0.25 U	0.033
	4	10/8/2009	0.0031 U	0.0019 U	0.0024 U	0.00065 U	0.25 U	ND
	5	10/8/2009	0.0034 U	0.0021 U	0.0026 U	0.0007 U	0.27 U	0.036
	6	10/8/2009	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	0.035
	7	10/8/2009	0.0039 U	0.0024 U	0.0029 U	0.0008 U	0.31 U	0.11
SB-210	2	10/8/2009	0.0033 U	0.0021 U	0.0025 U	0.00069 U	0.63 I	0.21
	3	10/8/2009	0.0031 U	0.0019 U	0.0024 U	0.00065 U	0.25 U	0.083
	4	10/8/2009	0.0033 U [0.0032 U]	0.002 U [0.002 U]	0.0025 U [0.0024 U]	0.00067 U [0.00067 U]	0.26 U [0.26 U]	0.026 [0.0214]
	5	10/8/2009	0.0036 U	0.0054 I	0.0098 I	0.004	0.29 U	0.04
	6	10/8/2009	0.0037 U	0.0097	0.0088 I	0.0022 I	0.29 U	0.042
	7	10/8/2009	0.0043 I	0.018	0.019	0.0071	0.3 U	0.024
SB-211	2	10/9/2009	0.0033 U	0.002 U	0.0025 U	0.00068 U	0.26 U	0.067
	3	10/9/2009	0.0033 U	0.0021 U	0.0025 U	0.00069 U	0.26 U	1.1
	4	10/9/2009	0.0033 U	0.002 U	0.0025 U	0.00067 U	0.26 U	3.2
	5	10/9/2009	0.0038 U	0.0023 U	0.89 I	0.00078 U	0.3 U	5.8
	6	10/9/2009	0.13	0.058	0.12	0.019	0.29 U	0.98
SB-213	6	10/22/2009	0.0029 U	0.015	0.012	0.00061 U	0.23 U	0.27
	7	10/22/2009	0.0084 I	0.047	0.014	0.013	0.29 U	0.012
SB-217	2	10/22/2009	0.16 U	0.095 U	0.12 U	0.032 U	12 U	1.72
	3	10/22/2009	0.003 U	0.0019 U	0.0023 U	0.00062 U	1.8	0.36
	4	10/22/2009	0.003 U	0.0019 U	0.0023 U	0.00062 U	0.5 I	0.136
	5	10/22/2009	0.0032 U	0.0079	0.0024 U	0.00065 U	0.88 I	0.24
	6	10/22/2009	0.0034 U	0.0069 I	0.0026 U	0.0007 U	0.92 I	0.198
	7	10/22/2009	0.0036 U	0.03	0.04	0.00075 U	1.3	0.177
SB-220	2	11/19/2009	0.063	0.76	0.16	0.14	1.2	0.33
	3	11/19/2009	0.0037 U [0.0033 U]	0.072 [0.054]	0.0083 I [0.0061 I]	0.0076 [0.0054]	0.29 U [0.26 U]	0.024 [0.0197]
	4	11/19/2009	0.0035 U	0.0093	0.0027 U	0.00072 U	0.28 U	0.0023
	5	11/19/2009	0.0036 U	0.0063 I	0.0027 U	0.00074 U	0.28 U	ND
	6	11/19/2009	0.0043 I	0.081	0.019	0.0098	0.29 U	0.0187

	7	11/19/2009	0.0098 I	0.16	0.078	0.016	0.3 U	0.031
SB-221	2	11/19/2009	0.0039 I [0.0042 I]	0.7 [0.65]	0.0029 U [0.0029 U]	0.034 [0.029]	0.3 U [0.3 U]	ND [ND]
	3	11/19/2009	0.0036 U	0.049	0.0028 U	0.0086	0.29 U	ND
	4	11/19/2009	0.0036 U	0.018	0.0027 U	0.0033	0.28 U	ND
	5	11/19/2009	0.0035 U	0.066	0.0026 U	0.0093	0.27 U	ND
	6	11/19/2009	0.0037 U	0.2	0.0044 I	0.03	0.49 I	ND
	7	11/19/2009	0.0039 U	0.15	0.0043 I	0.021	0.37 I	ND
SB-222	2	11/19/2009	0.021	0.002 U	0.0024 U	0.017	0.26 U	ND
	3	11/19/2009	0.0038 U	0.11	0.0039 I	0.0051	0.3 U	ND
	4	11/19/2009	0.003 U [0.0036 U]	0.026 [0.031]	0.0023 U [0.0028 U]	0.00063 I [0.00075 U]	0.24 U [0.29 U]	ND [ND]
	5	11/19/2009	0.0037 U	0.047	0.0028 U	0.00077 U	0.29 U	ND
	6	11/19/2009	0.0035 U	0.031	0.0027 U	0.0019 I	0.28 U	ND
	7	11/19/2009	0.0041 U	0.077	0.0031 U	0.0081	0.32 U	ND
SB-223	2	11/19/2009	0.0033 U	0.0034 I	0.0025 U	0.00068 U	0.44 I	0.243
	3	11/19/2009	0.0036 U	0.008 I	0.0028 U	0.0099	0.29 U	0.0228
	4	11/19/2009	0.0046 I	0.026	0.014	0.014	0.28 U	0.0056
	5	11/19/2009	0.018	0.054	0.019	0.031	0.24 U	0.0129
	6	11/19/2009	0.0088 I	0.04	0.0082 I	0.011	0.26 U	0.0136
	7	11/19/2009	0.017	0.094	0.014	0.017	0.29 U	ND
SB-224	2	11/19/2009	0.06	0.21	0.06	0.036	19	3
	3	11/19/2009	0.0033 I	0.052	0.0067 I	0.0034	0.24 U	0.145
	4	11/19/2009	0.0031 U	0.029	0.0023 U	0.0017 I	0.24 U	0.47
	5	11/19/2009	0.0033 U	0.021	0.0025 U	0.00067 U	0.26 U	3
	6	11/19/2009	0.024	0.06	0.016	0.023	0.28 U	0.228
	7	11/19/2009	0.04	0.14	0.028	0.05	0.29 U	0.172
SB-A	0.5	9/14/2007	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	0.044
	3.5	9/14/2007	0.0038 U	0.0023 U	0.0029 U	0.00078 U	0.3 U	ND
	6	9/14/2007	0.0038 U	0.0023 U	0.0029 U	0.00078 U	0.3 U	ND
	10	9/14/2007	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	ND
	11.5	9/14/2007	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
	14	9/14/2007	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
	17	9/14/2007	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	ND
	20.5	9/14/2007	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	ND
	23	9/14/2007	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	ND
	26.5	9/14/2007	0.0038 U	0.0023 U	0.0029 U	0.00078 U	0.3 U	ND
	33	9/14/2007	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	ND
	37	9/14/2007	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	ND
SB-B	0.5	9/14/2007	0.0031 U	0.0019 U	0.0023 U	0.00063 U	0.24 U	ND
	1	9/14/2007	0.032 K	0.02 K	0.024 K	0.0067 K	2.6 K	14
	5	9/14/2007	0.0033 U	0.002 U	0.0025 U	0.00067 U	0.26 U	0.061
	7	9/14/2007	0.031 K	0.019 K	0.024 K	0.0065 K	2.5 K	0.47
	9	9/14/2007	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	0.039
	11	9/14/2007	0.0035 U	0.0022 U	0.0027 U	0.00072 U	0.28 U	ND
	13.5	9/14/2007	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	0.091
	20	9/14/2007	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	0.0062
	24	9/14/2007	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	ND
	27	9/14/2007	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	ND
	29	9/14/2007	0.004 U	0.0025 U	0.003 U	0.00082 U	0.32 U	ND
	40	9/14/2007	0.0039 U	0.0024 U	0.0029 U	0.0008 U	0.31 U	ND
SB-C	1	9/14/2007	0.12 I	0.02 K	0.62	0.0066 K	2.5 K	22
	4	9/14/2007	0.0031 U	0.0019 U	0.0065 I	0.00065 U	0.25 U	0.034
	7	9/14/2007	0.0038 U	0.0023 U	0.0034 I	0.00078 U	0.3 U	0.068

	9	9/14/2007	0.0055 I	0.0022 U	0.0027 U	0.00074 U	0.28 U	0.36
	11	9/14/2007	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	ND
	16	9/14/2007	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	ND
	20	9/14/2007	0.0036 U	0.0022 U	0.0028 U	0.00075 U	0.29 U	ND
	25	9/14/2007	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	ND
SB-P	1	9/14/2007	0.0033 U	0.0063 I	0.0025 U	0.00068 U	0.26 U	0.27
	2	9/14/2007	0.0032 U	0.002 U	0.0024 U	0.00066 U	0.25 U	ND
	3	9/14/2007	0.0031 U	0.0019 U	0.0023 U	0.00063 U	0.24 U	0.13
	8	9/14/2007	0.066 I	0.13	0.027 K	0.0072 K	2.8 K	3
	10	9/14/2007	0.023	0.0024 U	0.0029 U	0.00079 U	0.3 U	0.42
	12	9/14/2007	0.0038 U	0.0023 U	0.0042 I	0.00078 U	0.3 U	0.0149
	14	9/14/2007	0.0037 U	0.0023 U	0.0028 U	0.00077 U	0.29 U	ND
	17	9/14/2007	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
	19	9/14/2007	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
	24	9/14/2007	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
	28	9/14/2007	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	ND
SB-Q	3.5	9/14/2007	0.0034 U	0.0022 I	0.0026 U	0.0007 U	0.27 U	0.032
	7	9/14/2007	0.044	0.04	0.031	0.00077 U	0.29 U	0.127
	9	9/14/2007	0.0037 U	0.015	0.022	0.00077 U	0.29 U	ND
	13	9/14/2007	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	ND
	16	9/14/2007	0.03	0.027	0.053	0.00077 U	0.29 U	0.062
	17	9/14/2007	0.0035 U	0.0022 U	0.0027 U	0.00073 U	0.28 U	ND
	20.5	9/14/2007	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	ND
	23	9/14/2007	0.0035 U	0.0021 U	0.0026 U	0.00071 U	0.27 U	ND
	25	9/14/2007	0.0037 U	0.0023 U	0.0028 U	0.00076 U	0.29 U	ND
	30	9/14/2007	0.0036 U	0.0022 U	0.0027 U	0.00074 U	0.28 U	ND
TSB-1	0.5	12/29/2003	0.0125 K	0.032	0.0125 K	0.0125 K	1.25 K	0.98
	2	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0119
	4	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0086
	6	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-2	0.5	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.043
	2	12/29/2003	0.0025 U [0.0025 U]	0.0048 [0.004]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	0.43 [0.38]
	4	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0127
	6	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0691
	8	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.016
TSB-3	0.5	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.057
	2	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	10	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-4	0.5	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	2	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-5	0.5	12/29/2003	0.005 K	0.005 K	0.005 K	0.005 K	0.5 K	0.19
	2	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.093
	4	12/29/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	0.0187 [0.02]
	6	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.021

TSB-6	0.5	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.37
	2	12/29/2003	0.005 K	0.005 K	0.005 K	0.005 K	0.5 K	0.24
	4	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-7	0.5	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.124
	2	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	10	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-8	0.5	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.091
	2	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/29/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	ND [ND]
	8	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-9	0.5	12/29/2003	0.0125 K	0.0125 K	0.0125 K	0.0125 K	1.25 K	14.8
	2	12/29/2003	0.005 K	0.005 K	0.005 K	0.005 K	14	ND
	4	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.3	ND
	6	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	1.2	ND
	8	12/29/2003	0.0025 U	0.0047	0.0025 U	0.012	0.41	ND
TSB-10	0.5	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.056
	2	12/29/2003	0.005 K	0.031	0.005 K	0.097	30	ND
	4	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	9.6	ND
	6	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	1.6	0.087
	8	12/29/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	11 [13]	0.35 [0.36]
TSB-11	0.5	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0163
	2	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	1
	4	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.073
	6	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.109
	8	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.052
	10	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.22
TSB-12	0.5	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	2	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.21
	4	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.093
	8	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-13	0.5	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	2	12/29/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	ND [ND]
	4	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/29/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-14	0.5	12/30/2003	0.005 K	0.005 K	0.005 K	0.005 K	0.5 K	0.123
	2	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0129
	4	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-15	0.5	12/17/2003	0.125 K	0.125 K	0.125 K	0.125 K	12.5 K	ND
	2	12/17/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	ND [ND]
	4	12/17/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	ND [ND]

	6	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.014
	10	12/17/2003	0.0025 U	0.004	0.0025 U	0.0025 U	0.25 U	ND
TSB-16	0.5	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0038
	2	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/30/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	ND [ND]
	6	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-17	0.5	12/30/2003	0.005 K	0.005 K	0.005 K	0.005 K	0.5 K	0.59
	2	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-18	0.5	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	2	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/30/2003	0.0025 U	0.04	0.0025 U	0.0025 U	0.25 U	ND
	6	12/30/2003	0.0025 U [0.0025 U]	0.26 [0.031]	0.0025 U [0.0025 U]	0.046 [0.0025 U]	0.25 U [0.25 U]	0.0056 [0.0057]
	8	12/30/2003	0.0025 U	0.0082	0.0025 U	0.0025 U	0.25 U	ND
TSB-19	0.5	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0206
	2	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-20	0.5	12/18/2003	0.025 K	0.025 K	0.025 K	0.025 K	2.5 K	0.186
	2	12/18/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/18/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	ND [ND]
	6	12/18/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/18/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	10	12/18/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-21	0.5	12/30/2003	0.0125 K	0.0125 K	0.0125 K	0.0125 K	1.25 K	0.0115
	2	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/30/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	ND [ND]
	8	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-22	0.5	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.4
	2	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0137
	4	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0037
	8	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-23	0.5	12/18/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.29
	2	12/18/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/18/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	ND [ND]
	6	12/18/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/18/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	10	12/18/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0038
TSB-24	0.5	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	2	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0171
	4	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/30/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	ND [0.0028]

TSB-25	0.5	12/30/2003	0.0125 K	0.0125 K	0.0125 K	0.0125 K	1.25 K	0.44
	2	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.034
	4	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0059
	8	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.037
TSB-26	0.5	12/30/2003	0.005 K	0.005 K	0.005 K	0.005 K	0.5 K	0.216
	2	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0027
	4	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/30/2003	0.0025 U [0.005 K]	0.0025 U [0.005 K]	0.0025 U [0.005 K]	0.0025 U [0.005 K]	0.25 U [0.5 K]	ND [0.121]
	8	12/30/2003	0.0125 K	0.0125 K	0.0125 K	0.0125 K	1.25 K	0.24
TSB-27	0.5	12/30/2003	0.005 K	0.005 K	0.005 K	0.005 K	0.5 K	0.44
	2	12/30/2003	0.005 K	0.005 K	0.005 K	0.005 K	22	6.3
	4	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	1.4	0.88
	6	12/30/2003	0.005 K	0.005 K	0.005 K	0.005 K	6.2	1.54
	8	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	3.8	0.51
TSB-28	0.5	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.74
	2	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.047
	4	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.027
	6	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0097
	10	12/17/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0111
TSB-29	0.5	12/30/2003	0.005 K	0.005 K	0.005 K	0.005 K	0.5 K	0.53
	2	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0159
	4	12/30/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	ND [ND]
	6	12/30/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/30/2003	0.0025 U	0.0026	0.0025 U	0.0025 U	0.25 U	0.003
TSB-30	0.5	12/31/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.0029
	2	12/31/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/31/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/31/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	8	12/31/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
TSB-31	0.5	12/31/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	0.05
	2	12/31/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	4	12/31/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND
	6	12/31/2003	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.0025 U [0.0025 U]	0.25 U [0.25 U]	ND [ND]
	8	12/31/2003	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.25 U	ND

Notes:

a. Cancer risk calculated by multiplying the maximum concentration by 1E-06 and dividing by the RSL; noncancer HI is calculated by dividing the maximum concentration by the RSL.

Appendix I: Toxicity Value Evaluation

A component of the contingency remedy summarized in the 2010 ESD, was the performance of a leachability study to determine the amount of contaminated soil that would need to be removed to allow natural attenuation to serve as an effective means for site ground water recovery. The additionalsoil remediation was completed in January 2012 on the Chevron property; however, the TSCs were based on leaching and did not address direct exposure to human receptors. Therefore to determine if the residual contamination remaining after January 2012 soil excavation within the remediated area is also protective of human exposure to soils, this FYR compared the AWA concentrations remaining at the Site to residential and commercial-based Regional Screening Levels (RSLs) published by the EPA in November 2012. The comparison indicates that the AWA concentrations are within the EPA's risk management range for carcinogens of 1E-06 to 1E-04 for both industrial and unrestricted use and demonstrates that the remedy is protective.

As shown in Table I-1, the AWA concentrations following soil remediation of all COCs are below the industrial RSLs. The comparison to residential-based RSLs indicate that only the AWA for toxaphene in surface soil and the AWA for chlordane in subsurface soil slightly exceed the screening levels based on a target cancer risk of 1E-06. However, these concentrations equate to a 1.5E-06 risk for toxaphene and 1.3E-06 for chlordane, which are within the EPA's risk management range for carcinogens of 1E-06 to 1E-04. The risk was calculated by multiplying the AWA concentration by 1E-06 and dividing by the RSL. Since the noncancer-based RSL for chlordane is higher than the cancer-based RSL, the noncancer hazard index (HI) of 1 would not be exceeded. For example, the AWA concentration of 2.1 mg/kg is below the residential noncancer-based RSL for chlordane of 35 mg/kg based on an HI of 1. The RSL comparison indicates that the AWA concentrations are within the EPA's risk management range for carcinogens of 1E-06 to 1E-04 and below the noncancer threshold of 1.0 which supports that the remedy is protective.

Table I-1: Comparison of AWA Source Area Pesticide Concentrations to RSLs

COC	AWA Concentration (mg/kg)	RSL (mg/kg)[a]		RSL exceeded?
		Industrial	Residential	
Surface Soil (0-2 ft bgs)				
alpha-BHC	0.017	0.27	0.077	No
beta-BHC	0.024	0.96	0.27	No
delta-BHC	0.028	490[b]	24[b]	No
gamma-BHC (Lindane)	0.009	2.1	0.52	No
Chlordane	1.4	6.5	1.6	No
Toxaphene	2.5	0.44	1.6	Yes Risk=1.5E-06
Subsurface Soil (2-5 ft bgs)				
alpha-BHC	0.025	0.27	0.077	No

beta-BHC	0.024	0.96	0.27	No
delta-BHC	0.036	490[b]	24[b]	No
gamma-BHC (Lindane)	0.058	2.1	0.52	No
Chlordane	2.1	6.5	1.6	Yes Risk=1.3E-06
Toxaphene	0.94	0.44	1.6	No

a. EPA's Regional Screening Levels (RSLs). November 2012 accessed at http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm

b. Screening level is the Soil Cleanup Target Level (SCTL) from the Final Technical Report: Development of Cleanup Target Levels (CTLs) For Chapter 62-777, Florida Administrative Code. February 2005.

The AWA comparison focused only on residual contamination within the former source area; however, residual concentrations of COCs also remain on the Chevron property outside the former source areas. As shown in Appendix H, the residual concentrations remaining at the Site are represented by 792 samples collected over 4.39 acres. As a conservative health protective screen, this FYRcompared the maximum concentration of these samples for each COC to RSLs based on residential and commercial land uses to estimate the maximum residential and commercial risk. As shown in Table I-2 the maximum concentration from 792 samples for all carcinogenic soil COCs, except toxaphene, equate to risk ranging from 7.6E-07 for gamma-BHC to 2.0E-05 for chlordane. Only one toxaphene sample was above the 1E-04 risk level at a risk of 2.9E-04 based on the maximum concentration of 130 mg/kg. The next highest concentration remaining is 30 mg/kg which equates to a risk of 7E-05 with the remaining 790 samples either below detection or at concentrations approximating the 1E-06 to 1E-05 risk level. Based on these comparisons and the high number of nondetects, the residual site contamination potentially may fall within the EPA's risk management range for unrestricted use. However, this must be confirmed by a cumulative risk analysis to determine if the site-wide pesticide concentrations support future unrestricted use/unrestricted exposure.

Table I-2: Comparison of Pesticide Concentrationss Outside Source Areas with RSLs

COC	Maximum (mg/kg)	Residential RSL (mg/kg)[a]		Screening Level Risk Evaluation	
		Risk-based (1E-06)	HI-based (HI=1)	Risk	HI
alpha-BHC	1.4	0.077	490	1.8E-05	0.003
beta-BHC	0.8	0.27	NA	3.0E-06	ND
delta-BHC	2.2	NA	24[b]	ND	0.092
gamma-BHC (Lindane)	1.6	0.52	21	3.1E-06	0.076
Chlordane	32	1.6	35	2.0E-05	0.9
Toxaphene	130	1.6	NA	2.9E-04	ND

a. EPA's Regional Screening Levels (RSLs). November 2012 accessed at http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm
b. Screening level is the Soil Cleanup Target Level (SCTL) from the Final Technical Report: Development of Cleanup Target Levels (CTLs) For Chapter 62-777, FAC. February 2005.
NA = RSL not available
ND = not determined

In April 1993, an RI was initiated and the results of soil sampling in the former Armstrong Trailer Park triggered a removal action during March and April 1994 to address soils above the cleanup level of 4.9 mg/kg established by ATSDR for chlordane for this residential area. Following the removal action confirmatory samples were collected and analyzed only for chlordane despite the presence of other chemicals detected during the RI. In order to evaluate the protectiveness of the soil removal actions and remedy, the RSL comparison was performed on the pre-removal action RI data to confirm that focusing only on chlordane also addressed the presence of other compounds detected in soil (Table I-3). Table I-3 demonstrates that the primary contribution of risk and noncancer HI is chlordane. The maximum concentrations of all other detected compounds were at or well below the lower end of EPA's risk management range (1E-06) and a target HI of 1.0 prior to removal actions. Following the removal actions for chlordane, the maximum concentration detected in confirmatory samples was 3.5 mg/kg, which is equivalent to a 2.2E-06; this value was derived by multiplying 3.5 mg/kg by a risk of 1E-06 and dividing by the carcinogenic-based RSL of 1.6 mg/kg and represents a risk that is within the EPA's risk management range of 1E-06 to 1E-04 for residential land use. The removal action goal for residential use was 4.9 mg/kg established in 1994 which is equivalent to 3E-06, which is still within the EPA's risk management range of 1E-06 to 1E-04.

Table I-3: Comparison of Pre-Removal Action Soil Contamination in the Former Armstrong Trailer Park to RSLs

COC	Maximum (mg/kg)[a]	Residential RSL (mg/kg)[b]		Screening Level Risk Evaluation[c]	
		Risk-based (1E-06)	HI-based (HI=1)	Risk	HI
Metals					
Chromium	11	NA	120000	ND	9.2E-05
Lead	110	NA	400[b]	ND	ND
Pesticides					
alpha-BHC	0.014	0.077	490	1.8E-07	2.9E-05
gamma-BHC (Lindane)	0.015	0.52	21	2.9E-08	7.1E-04
Chlordane	370	1.6	35	**2.3E-04**	**1.1E+01**
DDD, 4,4-	3.0	2.0	NA	1.5E-06	ND
Dichlorodiphenyldichloroethylene (DDE, 4,4-)	3.3	1.4	NA	2.4E-06	ND
DDT, 4,4-	2.0	1.7	36	1.2E-06	5.6E-02

Dieldrin	1.5	0.03	3.1	5.0E-05	4.8E-01
Endrin	0.11	NA	18	ND	6.1E-03
Heptachlor	0.0079	0.11	31	7.2E-08	2.5E-04
Heptachlor epoxide	0.15	0.053	0.79	2.8E-06	1.9E-01
Methoxychlor	0.025	NA	310	ND	8.1E-05
Volatile Organic Compounds					
Acetone	0.18	NA	61000	ND	3.0E-06
Methylene chloride	0.0064	56	360	1.1E-10	1.8E-05
Semivolatile Organic Compounds					
bis-2(ethylhexyl)phthalate	1.54	35	1200	4.4E-08	1.3E-03
di-N-butyl phthalate	1.9	NA	6100	ND	3.1E-04

a. Maximum detected concentration obtained from Table 1-1 and Table 1-2 of the Removal Action Report prepared by TASK, July 27, 1994.
b. The EPA's RSLs. November 2012 accessed at http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm
c. Lead is not evaluated based on cancer risk or noncancer HI, the screening value was developed by EPA using a blood-lead model. Thus, the maximum concentration was directly compared to the screening value.
d. Cancer risk calculated by multiplying the maximum concentration by 1E-06 and dividing by the RSL; noncancer HI is calculated by dividing the maximum concentration by the RSL.

NA = RSL not available
ND = not determined
bold – cancer risk exceeds the upper bound EPA risk level of 1E-04 and the target HI of 1.0.

Finally, toxicity factors for some of the COCs have changed since the baseline risk assessment was conducted in 1995. A summary of the toxicity factors available from the EPA in 1995 compared with current toxicity values is presented in Table I-4. As shown in Table I-4, the majority of the oral cancer slope factors (CSFs) and inhalation unit risk factors (IURs) have not changed.

To evaluate whether the ground water cleanup goals remain valid based on changes in toxicity values, the cleanup goals based on ARARs were compared to the most current ARARs and while the risk-based cleanup goals were compared to RSLs. Section 6.3 indicates that none of the ground water ARARs have changed since the 2010 ESD therefore, Table I-5 lists only those COCs without ARARs where the cleanup goal was based on a health-based value. New IURs are available for 4,4-DDD and naphthalene, while a higher IUR is available for beta-BHC. In addition, an new oral reference dose (RfD) has become available for alpha-BHC while a lower RfD is now available for naphthalene. As shown in Table I-5, the cleanup goals for alpha-BHC, beta-BHC, and 4,4-DDD still remain protective as the associated cancer risk and noncancer hazard based on a comparison to the residential tap water RSL results in risks within EPA's risk management range and HI well below the threshold of 1.0.

Since the1996 ROD, naphthalene has been classified as a potential carcinogen via the inhalation route of exposure by the California Environmental Protection Agency (CalEPA). Consequently, an IUR has been published for naphthalene by CalEPA and used by EPA to enable the calculation of potential carcinogenic risk-based RSLs. Based on the new IUR,

Table I-4. Summary of Changes in Toxicity Values for the Chevron Chemical Company (Ortho Division) Superfund Site.

	Carcinogenic Toxicity Changes						Non-Carcinogenic Toxicity Changes					
	Oral Cancer Slope Factor (CSF)			Inhalation Unit Risk (IUR)			Oral Reference Dose (RfD)			Inhalation Reference Concentration (RfC)		
Contaminants	1996 ROD[a] Oral CSF $(mg/kg\text{-}day)^{-1}$	2013 Oral CSF[b] $(mg/kg\text{-}day)^{-1}$	Change in CSF	1996 ROD[a] IUR $(\mu g/m^3)^{-1}$	2013 IUR[b] $(\mu g/m^3)^{-1}$	Change in IUR	1996 ROD Oral RfD[a] (mg/kg-d)	2013 Oral RfD[b] (mg/kg-d)	Change in RfD	1996 ROD RfC[a] (mg/m^3)	2013 RfC[b] (mg/m^3)	Change in RfC
Metals												
Arsenic	1.8E+00	1.5E+00	Lower	1.4E-02	4.3E-03	Lower	3.0E-04	3.0E-04	None	ND	1.5E-05	New
Chromium VI	ND	ND	None	1.2E-02	1.2E-02	None	3.0E-03	3.0E-03	None	1.0E-04	1.0E-04	None
Lead	ND	ND	None	ND	ND	None	ND	ND	None	ND	ND	None
Volatile Organic Compounds												
Benzene	2.9E-02	5.5E-02	Higher	8.2E-06	7.8E-06	Lower	ND	4.0E-03	New	2.0E-03	3.0E-02	Higher
Chlorobenzene	ND	ND	None	ND	ND	None	2.0E-02	2.0E-02	None	2.0E-02	5.0E-02	Higher
Ethyl benzene	ND	1.1E-02[c]	New	ND	2.5E-06[c]	New	1.0E-01	1.1E-01	Higher	1.0E+00	1.0E+00	None
Dichlorobenzene, 1,4-	2.4E-02	5.4E-03[c]	Lower	ND	1.1E-05[c]	New	ND	7.0E-02[d]	New	8.0E-01	8.0E-01	None
Methylnapthalene, 2-	ND	ND	None	ND	ND	None	ND	4.0E-03	New	ND	ND	None
Naphthalene	ND	ND	None	ND	3.4E-05[c]	New	4.0E-02	2.0E-02	Lower	ND	3.0E-03	None
Xylenes	ND	ND	None	ND	ND	None	2.0E+00	2.0E-01	Lower	7.0E+00	1.0E-01	Lower
Semivolatile Organic Compounds												
Di-N-butylphthalate	ND	ND	None	ND	ND	None	1.0E-01	1.0E-01	None	ND	ND	None
Dimethylphenol, 2-	ND	ND	None	ND	ND	None	2.0E-02	2.0E-02	None	ND	ND	None
Pesticides												
Aldrin	1.7E+01	1.7E+01	None	4.9E-03	4.9E-03	None	3.0E-05	3.0E-05	None	ND	ND	None
Aroclor 1260	7.7E+00	2.0E+00	Lower	ND	5.7E-04	New	ND	ND	None	ND	ND	None
Chlordane	1.3E+00	3.5E-01	Lower	3.7E-04	1.0E-04	Lower	6.0E-05	5.0E-04	Higher	5.0E+01	7.0E-04	Lower
4,4'DDD	2.4E-01	2.4E-01	None	ND	6.9E-05	New	ND	ND	None	ND	ND	None
4,4'DDE	3.4E-01	3.4E-01	None	ND	9.7E-05	New	ND	ND	None	ND	ND	None
4,4'DDT	3.4E-01	3.4E-01	None	9.7E-05	9.7E-05	None	5.0E-04	5.0E-04	None	ND	ND	None

Contaminants	Carcinogenic Toxicity Changes						Non-Carcinogenic Toxicity Changes					
	Oral Cancer Slope Factor (CSF)			Inhalation Unit Risk (IUR)			Oral Reference Dose (RfD)			Inhalation Reference Concentration (RfC)		
	1996 ROD[a] Oral CSF $(mg/kg\text{-}day)^{-1}$	2013 Oral CSF[b] $(mg/kg\text{-}day)^{-1}$	Change in CSF	1996 ROD[a] IUR $(\mu g/m^3)^{-1}$	2013 IUR[b] $(\mu g/m^3)^{-1}$	Change in IUR	1996 ROD Oral RfD[a] (mg/kg-d)	2013 Oral RfD[b] (mg/kg-d)	Change in RfD	1996 ROD RfC[a] (mg/m^3)	2013 RfC[b] (mg/m^3)	Change in RfC
Dieldrin	1.6E+01	1.6E+01	None	4.6E-03	4.6E-03	None	5.0E-05	5.0E-05	None	ND	ND	None
Endrin	ND	ND	None	ND	ND	None	3.0E-04	3.0E-04	None	ND	ND	None
Fenthion	ND	ND	None	ND	ND	None	ND	ND	None	ND	ND	None
Heptachlor epoxide	9.1E+00	9.1E+00	None	2.6E-03	2.6E-03	None	1.3E-05	1.3E-05	None	ND	ND	None
Hexachlorocyclohexane, Alpha- (alpha BHC	6.3E+00	6.3E+00	None	1.8E-03	1.8E-03	None	ND	8.0E-03[d]	New	ND	ND	None
Hexachlorocyclohexane, beta- (beta BHC)	1.8E+00	1.8E+00	None	5.1E-04	5.3E-04	Higher	ND	ND	None	ND	ND	None
Hexachlorocyclohexane, delta- (delta BHC)	ND	ND	None	ND	ND	None	ND	ND	None	ND	ND	None
Hexachlorocyclohexane, gamma- (gamma BHC or Lindane)	1.3E+00	1.1E+00	Lower	ND	3.1E-04	New	3.0E-04	3.0E-04	None	ND	ND	None

a. Risks and HIs presented in the 1996 ROD were summarized from the baseline risk assessment prepared by Black and Veatch, Waste Science, Inc. for the EPA. March 24, 1995, however, the toxicity values were obtained from the baseline risk assessment as they were not included in the 1996 ROD.

b. Reference doses (RfD), Reference Concentrations (RfC), cancer slope factor (CSF) and inhalation unit risk (IUR) factors were obtained from the EPA's Integrated Risk Information System (IRIS) available at: http://www.epa.gov/iris/subst/0025.htm and access on 2/11/2012.

c. The EPA has not developed carcinogenic toxicity values for these compounds; the values listed were developed by CalEPA and used by the EPA only for developing EPA RSLs to conduct preliminary evaluations of site data under CERCLA and the Resource Conservation and Recovery Act. However, due to the uncertainties associated with the toxicity values, the RSLs do not represent cleanup levels.

d. Toxicity value not available on the EPA's IRIS; the value listed was developed by the Agency of Toxic Substances and Disease Registry (ATSDR) and listed in the EPA RSL Table dated November 2012 http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm

ND = not determined, no value available for comparison from the EPA's Integrated Risk Information System (IRIS), available at http://www.epa.gov/IRIS.

EPA has calculated an equivalent risk-based tap water RSL of 0.14 micrograms per liter (µg/L), which is more stringent than the cleanup goal of 100 µg/L. EPA has not definitively determined the carcinogenic potential of naphthalene and has adopted an IUR developed by CalEPA only as a screening tool. Due to the uncertainties identified by EPA in the carcinogenic potential of naphthalene, the noncancer RSL was also evaluated, as EPA has established noncancer toxicity values for this compound. Based on a noncancer hazard of 1.0, EPA has calculated an RSL of 6.1 µg/L, which is considered protective for noncancer effects. The noncancer RSL of 6.1 µg/L is more stringent that the cleanup goal of 100 µg/L. It should be noted that the carcinogenic and noncancer-based RSLs are developed using a stringent volatilization factor. If a more realistic volatilization factor of 0.13 is used in EPA's RSL calculator[2], the noncancer-based RSL is 21 µg/L; this value is in the acceptable ranges for both cancer and noncancer endpoints. Further, it should be noted that the EPA Office of Drinking Water lists a Lifetime Health Advisory value for naphthalene of 100 µg/L, which is recommended as protective for chronic exposure.[3] Based on these uncertainties in the toxicity of naphthalene, the cleanup goal for total naphthalenes of 100 µg/L is considered to be protective for both cancer and noncancer endpoints. Based on this evaluation the cleanup goals in ground water remain valid.

Table I-5: Comparison of Health-Based Ground Water Cleanup Goals to RSLs

COC	Cleanup goal (µg/L)[a]	Residential RSL (µg/L)[b]		Screening Level Risk Evaluation[c]	
		Risk-based (1E-06)	HI-based (HI=1)	Risk	HI
Pesticides					
alpha-BHC	0.05	6.2E-03	7.3E+01	8.1E-06	6.8E-04
beta-BHC	0.1	2.2E-02	ND	4.5E-06	ND
4,4-DDD	0.1	2.7E-02	ND	3.7E-06	ND
Volatile Organic Compounds					
Total Naphthalenes	100	1.4E-01	6.1	**7.1E-04**	**1.6E+01**

a. Cleanup goal from 1996 ROD.
b. EPA's Regional Screening Levels (RSLs). November 2012 accessed at http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm
c. Cancer risk calculated by multiplying the cleanup goal by 1E-06 and dividing by the RSL; noncancer HI is calculated by dividing the cleanup goal by the RSL.
ND = not determined
bold – cancer risk exceeds the upper bound EPA risk level of 1E-04 and the target HI of 1.0.

To evaluate whether the soil cleanup goals for onsite soil remain valid based on changes in toxicity values, the cleanup goals were compared to the RSLs in Table I-6.

[2] http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search

[3] EPA 2011. *2011 Edition of the Drinking Water Standards and Health Advisories*, Office of Water, U.S. Environmental Protection Agency, January 2011, EPA/822-R-11-002 [http://www.epa.gov/waterscience/criteria/drinking/]

Table I-6: Comparison of Leachability-Based Cleanup Goals to Industrial RSLs

COC	Cleanup Goal (mg/kg)[a]	Industrial RSL (mg/kg)[b]		Screening Level Risk Evaluation[c]	
		Risk-based (1E-06)	HI-based (HI=1)	Risk	HI
Surface and Subsurface Soil					
alpha-BHC	0.120	2.7E-1	4900	4.4E-07	2.4E-05
beta-BHC	0.077	9.6E-01	ND	8.0E-08	ND
delta-BHC	1.386	ND	ND	ND	ND
gamma-BHC (Lindane)	0.180	2.1	240	8.6E-08	7.5E-04
Chlordane	50/100	6.5	400	7.7E-06/ 1.5E-05	1.3E-01/ 2.5E-01

a. TSCs as reported in Revised Source Reduction Work Plan. Arcadis. January 2011.
b. EPA's Regional Screening Levels (RSLs). November 2012 accessed at http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm
c. Lead is not evaluated based on cancer risk or noncancer HI, the screening value was developed by EPA using a blood-lead model. Thus, the maximum concentration was directly compared to the screening value.
d. Cancer risk calculated by multiplying the maximum concentration by 1E-06 and dividing by the RSL; noncancer HI is calculated by dividing the maximum concentration by the RSL.
NA = RSL not available
ND = not determined
bold – cancer risk exceeds the upper bound EPA risk level of 1E-04 and the target HI of 1.0.

As shown in Table I-6, the cleanup goals established in the Source Reduction Work Plan (Arcadis, 2011) still remain protective for direct exposure since the associated cancer risk and noncancer hazards results in industrial risks within EPA's risk management range and HI well below the threshold of 1.0. It should be noted however, that the cleanup goals have not been presented in a ROD or ESD.